

# Accounting Review

**Social Accounting: An Invitation to the Accounting Profession**  
W. W. COOPER

**Financial Statements for the Economy**  
IRWIN FRIEND

**National Accounting Systems and the European Recovery Program**  
EVERETT HAGEN

**Social Accounting for Moneyflows**  
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**Auditing Standards and Procedures**  
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**The English Universities and the Accounting Profession**  
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**Comments on Third Statement of Accounting  
Concepts and Standards**  
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# The Accounting Review

Vol. XXIV

JULY, 1949

No. 3

## SOCIAL ACCOUNTING: AN INVITATION TO THE ACCOUNTING PROFESSION<sup>1</sup>

W. W. COOPER

"CAPITALISM WITHOUT double-entry bookkeeping is simply inconceivable. They hold together as form and matter. And one may indeed doubt whether capitalism has procured in double-entry bookkeeping a tool which activates its forces, or whether double-entry bookkeeping has first given rise to capitalism out of its own [rational and systematic] spirit . . .", so H. M. Robertson<sup>2</sup> translates approvingly from a conclusion reached by Werner Sombart.<sup>3</sup> Robertson goes on himself to state: "That the countries in which the science of bookkeeping made the most progress were always those in which most economic progress was being made can no doubt be explained as a mixture of cause and effect . . ."

Today, in the sphere of social accounting and national-income analysis, an extensive development of accounting is occurring which neither Sombart nor Robertson had visualized. This development is going forward rapidly in the United States and other countries (including noncapitalist

countries such as Russia), and on the international as well as the national level. Not only are the international agencies such as the United Nations and World Bank interested in furthering these developments but the Economic Cooperation Administration, the United States agency for administering the Marshall Plan, is also utilizing its considerable resources in this direction.<sup>4</sup> That the concepts of national income and related totals represent a cornerstone of U. S. government policy is clear from the prominent place and extensive discussion accorded these data in the various *Economic Reports of*

<sup>1</sup> Two monographs dealing with the subjects of national income analysis and social accounting have recently been released by the United Nations. The first, *National Income Statistics of Various Countries, 1938-47* (now in mimeographed form preparatory to publication) contains an extensive discussion of national income concepts (and statistics) used by thirty-one countries as well as a critical set of recommendations pointing towards improvement and comparability; the second, *Measurement of National Income and the Construction of Social Accounts, Studies and Reports on Statistical Methods, No. 7* (Geneva: United Nations, 1947, available at the Columbia University Press, International Documents Service, New York), contains an excellent discussion of national income and social accounting prepared by Mr. Richard Stone.

An interesting example of a bank loan application resting on national income analysis may be found in the application of the Chilean government's Corporacion de Fomento de la Produccion to the International Bank for Reconstruction and Development (New York: Chilean Consulate, 1947). ECA, it should be noted, has decided to base its loans primarily on national income rather than specific project criteria.

<sup>1</sup> This and the three following papers by Messrs. Friend, Hagen and Copeland, were presented at the annual meeting of the American Accounting Association in Memphis in September, 1948.

<sup>2</sup> *Aspects of the Rise of Economic Individualism* (Cambridge: University Press, 1935). Chapter II, pp. 53, 56.

<sup>3</sup> *Der moderne Kapitalismus* (München und Leipzig: von Duncker und Humblot), II, 118.

the President to Congress.<sup>5</sup> That it is of interest at other than the Presidential level—in fact, to all federal agencies concerned with general economic policy—is attested by the official connections of this afternoon's speakers. These persons are part of a large staff of federal personnel who have been vigorously prosecuting this work: Mr. Friend was formerly Director of Research of the Securities and Exchange Commission where he developed and utilized these data as a means of gauging activity in the capital markets; he then moved to the Business Structure Division of the Department of Commerce where, as Chief, he has broadened his interest from corporations subject to SEC jurisdiction to the whole business universe. As consultant to ECA, Mr. Hagen has spent full time since the inception of the Marshall Plan in laying out the groundwork for the accounting systems of the participating countries; he has, in fact, been Acting Chief of ECA's National Accounts Unit. The Federal Reserve Board has borrowed the services of Mr. Copeland in order to assist the Board in developing moneyflow analysis along lines similar to those evolved by him at the National Bureau of Economic Research.

#### ACCOUNTING PARTICIPATION

To date this work has progressed almost entirely without participation from accountants.<sup>6</sup> This lack of participation has, I think, been unfortunate. Accounting participation might have served to accelerate certain developments. It should not have taken so long to realize, as Hagen notes, "that national-income measurement is best thought of as double-entry book-

keeping"—a perception that at once made clear "the exact relationship between income and output." Moreover, the process of analysis has not been carried through to its ultimate conclusion. It is particularly deficient on the balance-sheet, and especially the equity, side. In the hands of economists it was only natural that emphasis should rest on income measurement. Only recently, and imperfectly, has attention begun to be devoted to the balance sheet.<sup>7</sup> To date, however, resolution to the equity accounts has not been successfully carried out. It is difficult to believe that this "balance-sheet backwardness" would have occurred if accountants had participated more systematically in these developments.

I might also hazard the opinion that lack of accounting participation has also deprived accounting theory of a perspective and stimulation that it might otherwise have been gaining. This opinion rests on observations of some of the far-reaching repercussions these developments have already introduced into the sister discipline of economics. As Mr. Friend notes, "today, a very high proportion of all economic analysis is done within the framework of the national-income-and-product accounts. . . ." In the teaching of economics, the little book by Hicks and Hart<sup>8</sup> has started a trend which is already in evidence.<sup>9</sup> It is perhaps safe to say that

<sup>7</sup> See the discussion in a forthcoming publication of the Conference on Research Income and Wealth to be devoted to the subject of measuring national wealth. Of particular interest will be the articles by R. W. Goldsmith, "Measuring National Wealth in a System of Social Accounting," and Albert G. Hart, "Uses of National Wealth Estimates and the Structure of Claims." These items are available in limited amounts, in mimeographed form dated January, 1948. For a compact and elegant, if elementary, introduction to the problem of national balance sheets see Ch. X, "The National Capital" in J. R. Hicks and A. G. Hart, *The Social Framework of the American Economy* (New York: Oxford University Press, 1945). This book still constitutes what is probably the best introduction to social accounting.

<sup>8</sup> Cf. *Supra* footnote 7.

<sup>9</sup> See, for example, Ch. 11 and following in the recently issued textbook by Paul A. Samuelson, *Econom-*

<sup>5</sup> See, especially Appendix A in *The Economic Report of the President Transmitted to the Congress*, January, 1948. (Washington: U. S. Government Printing Office, 1948.)

<sup>6</sup> This meeting represents, so far as I know, the first time a major accounting organization has devoted a complete session to this subject.

most, if not all, economics textbooks will have to make their peace with this approach, for it offers many of the advantages of so-called generalequilibrium analysis without the formidable mechanical apparatus and degree of abstraction which have been inherent in the latter approach.<sup>10</sup> But the advantage need not rest solely with pedagogy. In a field, such as economics, which must ultimately appeal to critical common sense for "verification," this approach also has marked methodological advantages, at advanced as well as introductory levels. The material in this field is ripe for exploitation by graduate schools of accounting as well as departments of economics.

#### SOME TERMS AND CONCEPTS

Before turning to the speakers this afternoon it may be worth while to introduce a few concepts and terms which will aid in understanding their presentation. In social accounting, as in any other accounting, it is necessary to make certain initial decisions. First, decisions must be reached concerning what is to be measured; second, decisions must be reached as to the measurement and accounting process to be followed. In the latter group of decisions lie questions of system design and mechanics, account captions and terminology, types of reports, disclosure, etc. In the usual parlance, care must be taken to insure that the system is adequate. The accounts must be sufficiently detailed to yield the information sought without being unduly complex. All items for which an accounting is to be made must be included,

as: *An Introductory Analysis* (New York: McGraw-Hill Book Company, Inc., 1948). Professor G. L. Bach informs me that the forthcoming revision of Bowman and Bach, *Economic Analysis and Public Policy* (New York: Prentice-Hall, Inc.) will also contain considerable material on this subject.

<sup>10</sup> For students intending to enter some phase of business it has the obvious advantage of introducing them early in their career to the techniques of double-entry analysis, and extending the discipline as a tool for social as well as private analysis.

but care must be taken to avoid "double counts." It is this apparatus in its entirety which is referred to as the system of social accounts.

To accountants the social accounts contain nothing new in principle, although new terminology has been (and must be) developed to cover new areas. The term, account, carries its usual connotation of a divided sheet of paper (or other instrumentality) to provide for the systematic recording of debit-and-credit entries. An account entity may be defined as a transacting unit in the economic system.<sup>11</sup> Finally, a group of accounting entities which have been brought together with intergroup transactions eliminated may be referred to as a sector. The types and number of sectors utilized will depend, of course, on the purposes for which the system is constructed. Households, firms, and governments seem to constitute universally used sectors. While the level of consolidation implied in this tripartite division may, at first sight, seem too broad and abstract, accountants, experienced in the preparation of consolidated statements for corporations, should experience no real difficulty. It is common commercial practice to prepare consolidated statements in advance of legal, and perhaps administrative, existence. Of course, the various sectors may be decomposed into subsectors, or regrouped and consolidated at still broader levels until the whole economy is included in a single set of statements.

At this final level of consolidation, encompassing the entire national economy,

<sup>11</sup> Cf. Richard Stone, "Definition and Measurement of the National Income and Related Totals" in *Measurement of National Income and the Construction of Accounts*, p. 27, the reference cited in footnote 4.

The definitions of entity and sector used above are equivalent to the ordinary definition of an accounting unit as "any unit for which a self balancing set of accounts is maintained"—e.g., branch or subsidiary accounts as distinct from the records maintained at, say, cost-collection centers.



another group of terms make their appearance. Probably the most important, or at least the most extensively used, of these terms is "gross national product." In the course of discussing the definition of this term it will perhaps be possible to illuminate, to some extent, the nature of the decisions concerning "what is to be measured."<sup>12</sup>

What is sought is a measure of the total production of goods and services for the economy within a given interval of time. Since a great variety of things must be added together they must, of course, be reduced to a common denominator: money. A distinction between real and money movements of gross national product must, of course, be made. But once a decision is reached as to what to include in gross national product, there are no difficulties in reconciling money and "real" measures of income or product that have not previously been discussed by accountants at the level of private accounting.

A first approximation to what is ordinarily included in gross national product may be obtained by thinking of it as a consolidated sales figure for all firms in the economy. The consolidation is effected by removing all interfirm sales. This leaves only the sales of firms to consumers—or sale of consumption goods. This concept may perhaps best be thought of in terms of an ordinary consolidated operating statement (such as may be constructed on a set of working papers). On one side will be found the sales figure; on the other side will be found the expenses. If now a debit (or credit as the case may be) is made to the operating statement for the difference,<sup>13</sup> the two sides will balance. On one

side, then, is national output (sales); on the other side is national cost of production—if profit is counted as a cost—and the two are, of course, equal. Total national output is thus equal to total national cost of production.

But only the production of consumer goods has thus far been counted. Since investment goods also constitute production during the period, complete accounting must include them as well. Investment constitutes asset increments over the interval of time for which production is being measured. It will be recalled that balance-sheet accounts have not yet been developed for national-income accounting on a complete scale. Hence, the asset additions are posted to the operating statement. To the sales side is added the asset increase; to the opposite side is added the costs of production.<sup>14</sup> The two sets of figures will be augmented, but the equality between national output and cost of production remains unaffected.

Inspection of the cost side of the statement shows that all costs, with the exception of certain items such as depreciation, represent incomes to persons. Elimination of these nonincome payment items results in a figure for national income.<sup>15</sup>

<sup>14</sup> On sale of investment goods to consumers—e.g., housing—profits are included as a cost. Final products are valued at their sales prices. If assets have not been sold, they are valued at cost. See Carl S. Shoup, *Principles of National Income Analysis* (New York: Houghton Mifflin Company, 1947), p. 2. Although the concepts used by Shoup, as well as the excellent set of references in the appendix to his volume, are not in accord with the revised Commerce Department definitions, they may be supplemented by reference to the July, 1947, *National Income Supplement to Survey of Current Business* (Washington: U. S. Government Printing Office). The latter volume is the authoritative source for U. S. Government definitions.

<sup>15</sup> The Commerce Department uses an intermediate account known as net national product, but these refinements need not be pursued here. Failure to eliminate business taxes may bother some persons. Formerly the practice was to regard national income as a private concept. Business (income) taxes were subtracted from gross national product, before arriving at national income. Under the new Department of Commerce definition business taxes are contained in the national income total. By this device government is essentially treated as a factor of production. Should one disagree with this

<sup>12</sup> In what follows attention will be devoted primarily to the business sector.

<sup>13</sup> The offset entry is made to an "appropriation account." It will be recalled that systematic balance sheet notions are not used but are, rather, brought in as appendages. The credit (debit) to "appropriation account" is equivalent to the transfer of profit to earned surplus in ordinary accounting.

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National income is thus the remainder after nonincome items are deducted from gross national product. The reversing entry eliminating these items from both sides of the statement yields on one side of the operating statement another measure of total production for the period, and the components remaining on the other side represent income receipts or distributive shares of this product—what are referred to as factor payments.

National output again equals national income. This may be stated in an alternative way. One side represents the total expenditure on goods and services (both consumption and investment goods) and the other side represents income receipts. Hence income receipts exactly equal expenditures. Other classifications are possible. Decomposition of the product side of the statement reveals the flow of commodities. Receipts may be classified by industry source, and so on. Of particular interest is the distinction between investment and consumption goods which may be used to analyze potential inflationary or deflationary pressures.

The process may be continued to any desired length. Given the equality of the adjustments the equality of the results must obtain. Put in the opposite way, in-

definition, the amount of such taxes may be subtracted since full disclosure is made. The following table, for 1946, drawn from page 20, of the July, 1947, *Supplement to the Survey of Current Business* illustrates the major terms used by the Department of Commerce.

	(Amt. in Millions)
Gross National Product	\$203,697
Less: Capital Consumption Allowances	11,040
Net National Product	192,639
Less: Indirect Business Taxes (e.g., excises, but not profits taxes) Net of Subsidies and Related Items	14,435
National Income	\$178,204

(Note: The reason adjustment is made for indirect business taxes (and subsidies) is to reconcile output at market prices and factor costs or income receipts—on what is perhaps a not completely satisfactory assumption of tax incidence.)

equality of results indicates, as it always does in double-entry accounting, that the accounting is incomplete or in error.<sup>16</sup> Although this is a simple point of mechanics, its importance can hardly be over-emphasized. In a sense it is the heart of what Sombart refers to as "the rational systematic process of double-entry accounting." In making projections or estimates, for policy purposes, for example, it assures that the process is completely carried through—that all repercussions are taken into account.

#### INTRODUCTION TO THE PAPERS

It is time to turn to the speakers of the afternoon. Mr. Friend's paper will illustrate the powerful techniques of analysis that accounting places at our disposal. His report may perhaps best be thought of in terms of the ordinary literary report of a controller of a private corporation where attention rests on a particular problem analyzed in supporting schedules. The important point to note is, I think, the careful systematic analysis, each step leading to the next. This method is in sharp contrast to the older type of economic analysis with its method of isolating each commodity or industry for study or analysis. The term "anticipation statistics" that Mr. Friend uses is equivalent, on the national level, to the techniques of budgeting at the private business level.

<sup>16</sup> Thus, an understanding of the elements of double-entry accounting might have forestalled the acrimonious debates concerning the necessary equality of savings and investment for a total economy. (Both gross and net savings are meant. The former includes depreciation while the latter excludes it. Thus depreciation may be regarded as that portion of saving devoted to maintaining the stock of capital intact; net savings, to capital increase or decrease—depending on whether it is positive or negative.) It seems obvious that all consumption goods which are sold are also bought. The difference between consumption and total income represents investment, as noted above. Turning to the opposite side of the statement this represents the difference between total income received and spent. Overlooking the possible emotional impact of terminology this difference between income received and spent may be labeled "saving." It obviously equals investment.

These statistics, covering proposed capital expenditures by business, represent a relatively new development in the field and are of obvious utility for estimating and forecasting economic activity. The sources from which the data to which he refers are drawn are business capital budgets as reported regularly by business firms to the Department of Commerce and Securities and Exchange Commission.

Mr. Hagen is primarily concerned with the social accounts—i.e., construction and analysis of the sector accounts carried to a greater degree of refinement. Firms, households, and governments are divided into component sectors in order to facilitate analyses by industry, by region, etc. The sector account known as “the rest of the world” is of considerable interest to Mr. Hagen. The primary component of this account consists of foreign-trade transactions (i.e., transactions with other economies).<sup>17</sup> This account is of great interest for ECA administration in furtherance of the purposes of the Marshall Plan.

To use a common term of commercial accounting, Mr. Hagen's interest lies in the direction of system design and installation. In the case of Marshall Plan aid, administered by ECA for the United States and coordinated by OEEC<sup>18</sup> for Europe, the administrative need for the techniques of social accounting are great. The countries cannot plan or ECA review the programs in any systematic fashion

<sup>17</sup> The term may be used to cover all parts of the economy also (including outside economies) which are not receiving major emphasis in a particular study. Thus, in a study of households all other sectors of the economy—firms, governments, foreign transactions—may be consolidated into a single sector, “the rest of the world.”

<sup>18</sup> Organization for European Economic Cooperation. This organization was constructed by the participating nations to serve as a coordinating body. Each nation submits its requirements to OEEC, which, in turn, checks the estimates and coordinates each nation's plan with those of the other nations. The final plan (as well as the execution and alteration of plans) is checked by the European office of ECA under Mr. Harriman and then forwarded to ECA Washington for further review and approval.

without something in the way of social accounting. The need may be most vividly illustrated by reference to the so-called “end-use audit” for which the controller's office of ECA is responsible. The function of the end-use audit is to determine (a) whether materials are being used in accordance with the approved program and (b) to examine, in the field, the efficacy of the program. To trace through each transaction—for example, to follow each shipment of wheat to the final consumer—would be an exceedingly costly operation. The parallel might be drawn in terms of an attempt to trace and audit each transaction and flow of goods in a large multiple-company operation without the benefit of systematic records. Just as in the case of a commercial audit it is more expeditious to work backwards from prepared statements and functioning systems (which permits the confident use of “spot checks” and other devices developed in commercial accounting) so the process of ECA audit can be facilitated if the countries can themselves be encouraged to develop their own systems and statements.

It might seem that attention should be restricted to commodities furnished with U. S. Government aid. If locomotives which had been requested by a particular country for hauling coal were discovered being used for hauling pleasure passengers, ECA might take administrative action. But little would be gained if the country corrected the situation by using ECA locomotives to haul coal and diverted an equivalent number of its own locomotives to hauling pleasure passengers.<sup>19</sup>

<sup>19</sup> A similar problem rises on the purchases and pre-audit side, since most of the participating countries have dollar balances of their own in addition to Marshall-Plan dollars. Should ECA refuse to approve a particular transaction, the country need merely submit another transaction which will meet ECA approval and finance the rejected transaction with funds which would otherwise have been used to purchase the second item. To check any such diversions complete detail on “the rest of the world sector accounts” must be secured.

Since assets furnished by ECA constitute only a small (but critically important) portion of the total assets of the participating countries, sensible judgments may be made only by systematic examination of the use of all the resources of the economy. This can only be done if the countries themselves develop the necessary accounting systems to serve as the basis of audit.

The Federal Reserve Board is, of course, interested in moneyflows as a focal point for policy decisions. In Mr. Copeland's analysis the intrasector transactions are consolidated or "netted out." Between sectors his analysis proceeds on a gross

basis. His statement may, I think, best be viewed in terms of the usual gross statement of sources and uses of funds in which primary emphasis is placed on operating statement accounts and in which the working-capital section is segregated for special attention. It is natural that he should proceed from double-entry to quadruple-entry accounting. In studying both parties to a transaction he must, of course, analyze the double-entry on each side of the transaction. The quadruple-entry approach thus epitomizes the logical extension of accounting from the private to the social sphere.

## FINANCIAL STATEMENTS FOR THE ECONOMY

IRWIN FRIEND

**I**N RECENT YEARS social accounting or the construction of financial statements for the entire economy has become increasingly important in the thinking of the general public and in the formulation of policies by Government officials and businessmen. The over-all financial statements now in use or potentially of future importance are based on three types of accounts completely familiar to all business accountants, viz., income accounts, balance sheets and a derived sources and uses of funds analysis. The last, of course, shows the origin and disposition of funds for capital purposes as well as on current account.

Such financial statements are now recognized as essential to the appraisal of economic activity and to the analysis of the significant interrelationships within the economy. For a comprehensive analysis of the economy, however, they must be

supplemented by several other types of related data, notably by deflated figures expressing economic activity in real as well as dollar terms, and by what might be called anticipation statistics. The latter category includes new and unfilled orders and budget data, particularly planned capital expenditures.

Anticipation statistics, which like the historical figures are also based on accounting data, are of particular importance since our interest in the past and present is largely dependent on the insight it gives us into the future. In this connection, the various budgets prepared by business, especially the capital budget, promise to be extremely useful in evaluating prospective developments in the economy within the framework of the three basic statements previously referred to.

## NATIONAL INCOME AND PRODUCT ACCOUNTS

The best known and most widely used financial statement for the economy is the national income and product account published quarterly by the U. S. Department of Commerce. There are five major subsidiary accounts to the over-all national income and product account which are also of considerable interest and released regularly. They are the business income and product account, the Government receipts and expenditures account, the rest of the world account, the personal income and expenditures account, and the gross savings and investment account.

The national income and product account represents a consolidated statement of the receipts and expenditures of the major sectors of the economy. On the one side is a breakdown of the gross national product, defined as the market value of the national output of goods and services before deduction of business consumption of capital goods. The gross national product may be thought of as the consolidated sales of the economy adjusted for change in business inventories so as to measure output; it is subdivided into personal consumption expenditures, gross private domestic investment, net foreign investment, and Government purchases of goods and services. A great wealth of detail for each of these items is shown in supplementary schedules.

On the other side of the account are the charges against the gross national product, i.e., a breakdown of the costs (including profits) incurred in producing it. These consist for the most part of the earnings of the factors of production that make up the national income, such as wages and salaries, and rent, interest, and dividends received by persons, income of unincorporated enterprises, and undistributed corporate profits. However, in addition to the national income, the charges against the gross national product include several

other items of which the most important are indirect business taxes and capital consumption allowances.

The parallelism between this account and the customary income account for business is obvious. On the one side we have a breakdown of consolidated net sales (adjusted for change in inventories) by type of purchaser and commodity group—on the other, a breakdown of costs, including depreciation, taxes and profits. Except for statistical discrepancies, the two must be equal.

A few remarks on the nature of consolidation reflected in the national income and product accounts may be in order. Consolidated net sales of businesses in these accounts is a much smaller figure than the sum of the net sales for individual business enterprises. The sales of one company which enter into the cost of goods for another firm are eliminated to avoid double counting in arriving at final product or income in the system of national accounts. It should be noted that the question of legal affiliation among companies is irrelevant in this connection unlike the usual basis for consolidation in ordinary business accounting.

Of the five major subsidiary accounts to the national income and product account, only two require amplification here, the personal income and expenditures account and the gross savings and investment account. The personal income and expenditures account shows not only personal income and personal consumption expenditures but also personal taxes and personal saving. Saving is obtained by subtracting consumption and taxes from income.

The account showing gross savings and investment is basically a recapitulation of capital items shown elsewhere in the system of national accounts. The point of emphasis here is the equality between saving and investment for the economy as a whole. Thus, personal saving plus cor-

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porate saving (or undistributed corporate profits) plus Government saving (or surplus on income and product transactions) plus capital consumption allowances are equal to gross private domestic investment plus net foreign investment. Gross private domestic investment includes new construction, producers' durable equipment, and change in business inventories. The gross savings and investment account shows broadly the extent to which the saving of one sector of the economy finances directly or indirectly the major types of investment or the dissaving of other sectors.

To obtain a clearer picture of the manner in which the saving of one sector finances the investment or dissaving of other sectors, it is necessary to construct a sources and uses of funds analysis for each of the major sectors of the economy. The breakdown of personal saving into its components, i.e., increases in assets less decreases in liabilities apart from revaluation items, makes possible such an analysis for the personal sector of the economy. This account, which is available on a partial basis quarterly and on a more comprehensive basis annually, supplements the personal income and expenditure account to show the flow of personal saving into or out of cash, insurance, Government and corporate securities, mortgage debt, consumer credit, etc.

Likewise, a breakdown of corporate saving (plus capital consumption allowances) into its components makes possible a sources and uses of funds analysis for the corporate sector of the economy. These data have only recently been made available on a systematic basis by the U. S. Department of Commerce in the March, 1948, issue of the *Survey of Current Business* in connection with an analysis of postwar trends in business financing. They show clearly the extent to which capital requirements of corporations as a whole

are met by retained profits, depreciation, drawing down of liquid assets, increases in payables, bank loans, bonds, or equity issues.

The above accounts, together with a similar breakdown of Government saving, can be integrated into a sources and uses or flow of funds analysis for the entire economy. The major deficiency for this purpose of the data already available is the inability to separate satisfactorily all of the components of saving by individuals in business, i.e., owners of unincorporated enterprises, from other individuals.

#### NATIONAL INCOME AND PRODUCT ACCOUNTS

The system of national accounts which I have summarized shows both the consolidated transactions of each of the major sectors in the economy and the relations among the sectors of those transactions which are most relevant to the analysis of over-all economic activity. It might be helpful at this point to enumerate some of the uses of these data.

The most obvious use of the gross national product is as a measure in dollars of the total output of the economy. In the postwar period, it shows clearly the growth of total output to the highest peacetime level in our history, even after allowing for the very substantial price rises which have occurred.

As a measure of total output of the domestic economy, the gross national product obviously makes possible a comparison of our output with the output of other countries, with appropriate adjustment for differences in prices. National wealth estimates would, of course, also be desirable as a supplementary tool in this connection.

Though the measure of total gross national product has a considerable number of important uses, a much wider variety of problems can be analyzed only through the use of the various components and rela-



tions within the system of national economic accounts. During the past war overall planning in this country was carried on against a background of national income and product accounts. The questions which were raised related not only to the current and potential total output, but also to the current and optimum allocation of that product between the civilian and Government sectors of the economy. For that purpose, we needed to know the broad distribution of the gross national product into personal consumption expenditures, private investment and Government purchases of goods and services, and the detailed breakdown of these categories into commodity groups so that less essential items could be weeded out. A large part of this additional detail is given in supplementary accounts to the national income and product accounts.

Once the optimum gross national product in current dollars and its desired distribution between the private and Government sectors of the economy had been determined, there was the further problem of financing output diverted to Government. The main problem here was to insure that the income which was generated by the expenditures on total output did not give rise to serious inflationary pressures which would impede the war effort as well as damage the civilian sector of the economy. In 1944, for example, with utilization of our economic resources at its peak, the gross national product amounted to over \$200 billion. Government purchases of goods and services were close to \$100 billion; practically all of the rest of the gross national product went into personal consumption expenditures. Now with a gross national product of \$200 billion, charges against gross national product were also \$200 billion with a very high proportion consisting of income received by individuals and corporations, primarily the former. In other words, the private sector of the

economy received roughly \$200 billion in income for producing \$200 billion of product, \$100 billion of which was for defense purposes and \$100 billion for consumption.

Let us consider what is necessary for such a system to be in equilibrium. On the one hand individuals and corporations must either save or pay to the Government in taxes the amount of \$100 billion, or the difference between their income and expenditures at existing prices. The Government in turn must finance its expenditures of \$100 billion either by taxation or by tapping private saving directly or indirectly through the issuance of bonds.

It is, however, not a matter of indifference whether reliance is placed on taxation or saving to finance Government expenditures. Individuals and corporations receiving \$200 billion in income will normally want and attempt to spend far more than the \$100 billion allotted to them for consumption and will in the process exert inflationary pressure on prices. On the basis of past experience, an estimate can be made of the amount of income after taxes out of which individuals and corporations can be expected to spend \$100 billion. Assuming that this amount is \$125 billion, after adjusting for the absence of certain types of goods and the effect of patriotic incentives to save under such conditions, the Government might have decided to take away the remaining \$75 billion of income in taxes. Actually, the Government decided, both on economic as well as noneconomic grounds, that something less than \$50 billion of income would be taken in taxes, relying on price control and rationing to immobilize the remaining \$125 billion. Thus private saving amounted to \$50 billion of which \$25 billion may be considered voluntary and \$25 billion involuntary. Together these financed half the Government expenditures; the other half was financed through taxation.

Today, a very high proportion of all eco-



conomic analysis is done within the framework of the national income and product accounts, though for many purposes additional data are also needed. We look to the breakdown of product to see the extent to which a boom in output reflects a rise in consumers' expenditures as compared, say, with business inventory accumulation; to appraise the relationships between the detailed items of consumers' expenditures and total business activity; to analyze the part that exports play; to determine whether the share of our current output going into capital formation is smaller or larger than in past periods; and to study the long-term and short-term trends in Government share of total output. We turn to the income side to assess the effect of a rise in business activity on the incomes of the different sectors in the economy and to compare the relative share of wages (and salaries) and profits in the postwar and prewar years. The personal income and expenditures account, which also shows personal saving, tells us whether people are spending a higher or lower proportion of their income than normally; the breakdown of personal saving into components is necessary for analyzing the role of individuals in the capital markets, the success of Government bond drives, the effect of Social Security programs on private insurance, or the effectiveness of credit regulations.

Finally, let us consider the uses of the account showing the sources and uses of corporate funds, an account in which most of you have a special interest.

#### SOURCES AND USES OF CORPORATE FUNDS

A problem which was of concern to many businessmen, economists, and Government officials in the latter part of 1947 and the early part of this year related to the adequacy of funds available for financing business expansion. In the postwar period, busi-

ness was confronted with huge capital requirements for expansion of plant and equipment facilities to take care of postwar markets and technological advances. It also needed added working capital in line with increased peacetime activity and the rising price level. The vastness of these capital requirements, amounting to more than 50 billion dollars for nonfinancial corporations in 1946 and 1947, inevitably led to a growing pressure of demand upon the available sources of funds for business investment. This pressure focused attention for the first time in many years on possible deficiencies in the supply of capital, particularly equity capital.

As an initial step in analyzing the capital problems facing industry, it is necessary to describe the capital requirements of business since the end of the war, the manner in which they were financed, and to compare the postwar and prewar periods in these respects. This information is given by a sources and uses of funds analysis for the entire business economy. For purposes of this talk, the discussion will be confined to nonfinancial corporations alone.

In 1947, in addition to the very substantial capital outlays charged to current account, nonfinancial corporations expended about 15 billion dollars on plant and equipment, over 7 billion on enlarging their inventories, and added 5.5 billion to their trade receivables. This aggregate of more than 27.5 billion dollars—the highest on record—was financed by 10.5 billion of retained profits, 4.5 billion of depreciation charges, 4.5 billion of net new capital issues, and 3.5 billion of bank loans and mortgages, as well as by a two billion dollar increase in trade payables, and a three billion increase in income tax-liabilities and other payables.

In comparison with the previous year, there was a rise in capital requirements during 1947. There was also a rise in retained profits, a rise in net security issues,

a slight slackening in the rate of increase in bank loans, and a decided tapering off in the rate of reduction of liquid assets. There was not much change in liquid assets in 1947—unlike the 6.5 billion dollar reduction in cash and Government securities, mainly the latter, during the preceding year. Part of this difference between the two years in the trend of liquid assets is explainable in terms of the increase in income-tax liabilities during 1947, as compared with the decrease during 1946. A more important reason probably is the disappearance in 1947 of some of the excess liquidity which corporations had in 1946. As business activity and prices rose, there was less leeway for further drawing down of liquid assets.

The very substantial increase in security issues in 1947 is of particular interest. Over two-thirds of the amount of net security issues took the form of bonds. The remainder was distributed between common and preferred stock, with the former much the more important of the two. The volume of net equity issues in 1947, i.e., both common and preferred, was about the same as in 1946, but there was a much larger rise in bonded indebtedness.

The funds raised by nonfinancial corporations through security financing were supplied by the rest of the economy, i.e., by financial institutions and individuals. Banks and insurance companies are, of course, largely restricted by law to the purchase of bonds. While the banking system took only a relatively small amount of corporate securities during 1946 and 1947 life insurance companies absorbed nearly four-fifths of the increase in such securities. Individuals bought stocks and sold bonds on balance in both 1946 and 1947.

The increase in new money raised through bonds in 1947 reflected the change in industrial composition of the issues floated, since the utilities which accounted for a much higher proportion of public financing in 1947 than in 1946 more typi-

cally resort to debt issues than do industrial.

For corporations as a whole, retained profits and depreciation charges were about as large as the total of fixed capital expenditures and twice as large as funds obtained through securities and bank loans. Manufacturing, it may be noted, showed less dependence on outside sources of funds in 1947 than corporations generally.

Judging from the available data, the 4.5 billion dollars of net new issues raised through the capital markets in 1947 by nonfinancial corporations seem to be above the levels of the late twenties and probably were the highest in history. The three billion dollar increase in corporate bank loans (exclusive of mortgages) in 1947—nearly as high as in 1946—was equaled previously only in 1919–20, following the First World War, and reflects many of the same conditions characterizing that period, including inventory accumulation and rapidly rising prices. Unlike the earlier period, however, long-term bank loans, which first became important in the late thirties, played an important role in the money borrowed from banks by corporations, representing almost half of the total of short and long-term bank loans. The 600 million dollar increase in mortgage loans to corporations during 1947—slightly above 1946—was also the highest on record.

In connection with the unprecedented amount of new money raised through the net increase in bank loans and security issues in 1947, the available data indicate that the ratio of such external financing to funds available internally from retained profits and depreciation charges was definitely lower in 1947 than in the late twenties. In this respect, however, the unusually large inventory revaluation reflected in retained profits in the post-war period should be borne in mind. The proportion of money raised through bank loans to total external financing, including net new is-

issues, was higher in 1947 than it had been in the 1920's—even though the relative importance of bank loans had declined from 1946 to 1947.

In contrast to the very large total of outside capital financing in 1947, equity financing was much less important in historical perspective. It appears, however, that the 1947 ratio of equity to bond financing, except for utilities, was not out of line with the average experience during the 1920's and 1930's, though considerably below 1929. In that year, equity securities were used extensively to refinance bonded indebtedness. Other stocks were issued to finance the acquisition of existing assets or the purchase of outstanding securities.

To further appraise the capital problems facing industry, it is necessary to analyze, in addition to the sources and uses of funds data, the cost of different types of financing in the postwar and prewar periods, as well as the current financial position of business, the relation of business investment to total current output, the extent of utilization of our economic resources, and prospective changes in these variables in the future.

A full discussion of the relevant data and problems is outside the scope of this talk but may be found in an article in the March 1948 issue of the *Survey of Current Business*. The article concluded that the "available data on the volume of capital expenditures, the sources of capital supply, and the cost of financing do not give any definite indications of serious quantitative deficiencies in the supply of capital available to business so far in the postwar period." It also pointed out, however, that there was a *long-run* problem in raising sufficient equity capital.

#### OTHER TYPES OF FINANCIAL STATEMENTS

Up to now, apart from some introductory remarks, I have devoted my discussion to the content and uses of the national

income and product accounts and subsidiary statements. In addition to these accounts, there are two other related systems of accounts which have been set up based on the receipts and expenditures of the major sectors of the economy. The first of these is the so-called input-output study, or the study of inter-industrial relationships, which is based conceptually on a breakdown of cost of goods purchased. It attempts to show in systematic form not only the industries producing goods and services but also the industries purchasing them, giving in effect a cross-classification table of industrial interdependence. The second is the moneyflow analysis which Mr. Copeland will discuss in detail later this afternoon but which may be categorized here as essentially a sources and uses of funds analysis for the entire economy. Both the input-output and moneyflow studies differ from the present national income and product accounts in point of emphasis, degree of detail and manner of presentation of the various items of receipts and expenditures. Neither is much used as yet.

All of the systems of accounts discussed so far are based on receipts and expenditures data. As I suggested earlier, a complete financial statement would also require balance sheets for the economy as a whole and for the major economic sectors. A large part of the necessary information is already at hand, much of it quarterly. However, no comprehensive set of balance sheets is yet available on a satisfactory, regular, or consistent basis. As you might guess, some of the greatest difficulties in this field are conceptual, involving such questions as the proper valuation of tangible assets.

It is of some interest to note the parallelism in the relative emphasis placed by accountants and economists on balance sheets and income accounts at various periods in history. In the early stages of development, both groups placed more stress on

the balance sheet or wealth concepts and data. Subsequently, the emphasis shifted increasingly to the income account. More recently, many voices have been raised among accountants and economists alike inquiring whether the pendulum has not swung too far.

There can be little question that both income accounts and balance sheets are needed in constructing a financial statement adequate for the comprehensive analysis of either an individual business or the total economy. In assessing either the financial condition of a business, or a nation's economy, some knowledge of its working assets, fixed capital and debt position is necessary as well as its income account. From the point of view of the economy, balance sheet data are needed not only to measure our accumulated wealth but more important to make possible a more adequate analysis of the market for consumers' and producers' goods and of the demand for and supply of capital. Consumers' expenditures and businessmen's outlays depend not only on their income but also on their liquid assets, debt position, accumulated inventories, and stock of capital goods.

Given a complete set of accounts along the lines I have described, we have a pretty satisfactory picture of over-all economic activity as it occurred. There are some economists who believe that from the most recent data of this nature, together with the interrelationships indicated by the historical record, it is possible to construct a picture of national income and product in the future. Most economists feel that much more is required. An increasing number think that possibly the most promising approach is to obtain budget data from the major groups in the population, including anticipated or planned expenditures by consumers and business, particularly the latter.

The Department of Commerce, in collaboration with the Securities and Ex-

change Commission, now compiles regularly quarterly and annual data on anticipated or planned capital expenditures, i.e., outlays on new plant and equipment, by all U. S. business. Data on anticipated sales are also obtained. The emphasis so far has been placed on the capital budget of business since business investment is one of the most dynamic elements in the economy. Expenditure plans in this field are made for some time ahead and to a considerable extent on a reasonably firm basis. Despite the fact that expenditures for new plant and equipment are comparatively small relative to total economic activity, their variability and the cumulative effects of changes in their magnitude give them an unusual significance in the business cycle. In direction and timing, capital outlays of private business have corresponded fairly closely with the movement of the gross national product.

The data on business budgets collected so far have not been sufficient to assess finally their usefulness, but our experience to date gives us every reason for optimism. Thus the data on anticipated plant and equipment expenditures pointed before the war's end to a postwar boom and have since then consistently indicated the maintenance of a high level of activity.

In theory, a complete financial statement for the next fiscal period could be built up from budget data, including tests for internal consistency. Such a development, however, is too far removed to be of interest here and may well never prove feasible.

Of greater interest is the possibility of collecting in the near future a few selected budget items, in addition to the data on anticipated sales and fixed capital outlays, from a small sample of business enterprises. At the moment, some work is being done to determine whether meaningful budget data on inventories can be obtained. If they can, they may prove useful in appraising the likely direction and extent of



future movements in inventories. The present procedure of comparing the current relationship of inventories and sales with prior periods is quite inadequate.

#### USE OF ACCOUNTING DATA IN ECONOMIC ACCOUNTS

I have already pointed out the dependence of systems of national accounts on accounting *concepts*. Accounting *data* in turn—such as net sales, cost of goods sold, profits after taxes, dividend payments, capital expenditures, and balance sheet items—are basic to the actual estimates. Some of the uses of accounting records are not entirely obvious. For example, not only are the estimates of corporate saving derived from corporate books but also to a considerable extent the estimates of the components of noncorporate or personal saving. Thus to obtain personal saving in cash, the procedure now utilized is to subtract from total cash taken from banking reports a number of items including principally corporate cash. Another far from obvious application of accounting data is the use of business net receivables from Government to adjust Government payments for goods and services in order to estimate the Government component of the gross national product.

It should be noted that to make the national accounts of maximum usefulness for economic analysis they are based as far as possible on a uniform system of accounting. The accounting definitions used are those most consistent with economic concepts. A considerable amount of information is shown which could not be obtained from an ordinary accounting statement. One of the more significant items of this nature is the estimated inventory valuation adjustment which indicates the extent to which reported profits reflect gains or losses on inventories. Apart from the im-

portance of this item in appraising the significance of reported profits, it is of interest in illustrating the great complexity of information required for putting together the national income and product accounts. The estimate is derived from the book value of inventories at the beginning and end of the period, the proportion of inventories valued on different bases such as FIFO or LIFO, the average turnover period for inventories, and the movement of prices during the period.

Probably the major deficiencies in our present data lie in the field of unincorporated enterprise where, as you know, accounting records are frequently absent and leave much to be desired. In addition to more adequate data for noncorporate business, the following points would be generally helpful in extending the usefulness and improving the quality of financial statements for the economy: more detailed breakdowns of net sales and cost of goods sold; greater uniformity in practices followed in carrying items through the income account, in capitalizing expenditures, in depreciation policy and inventory valuation; more extensive use and publication of sources and disposition of funds analyses for individual companies (so that data which are now pulled together from different sources would be obtained from one consistent set of accounts); and more detailed and more widely available budget material.

To sum up, improvement in the financial statements for the economy will depend largely on extension of the area in which adequate accounting records are kept as well as either greater uniformity of accounting methods or more precise knowledge as to the actual extent to which the different methods now in use are applied so that appropriate adjustments can be made.

# NATIONAL ACCOUNTING SYSTEMS AND THE EUROPEAN RECOVERY PROGRAM

EVERETT HAGEN

THE TYPE of economic analysis known as analysis of national accounts involves the application of accounting principles to an entire economic system. The use of this technique in developing and administering the European Recovery Program has resulted inevitably from the nature of that program; it is impossible to guide the program as it develops without "keeping accounts" on the economic systems of western Europe. In this paper, after describing the development of the so-called "national accounts" or "social accounts,"<sup>1</sup> I shall summarize the present economic situation in western Europe and the changes in it which the European Recovery Program is intended to bring about. I shall then indicate how analysis of the social accounts is furnishing guidance to the program.

## DEVELOPMENT OF THE SOCIAL ACCOUNTS

I can best describe the significance of the social accounts by indicating briefly how they developed out of the study of national income. National income is, of course, the income derived from production by all of the persons and enterprises in the economic system—that is, total wages and salaries, rents, interest, and profits. From the earliest days of its measurement, national income has been regarded not merely as a measure of *income* but also as a measure of the economic system's total *output*. However, the exact relationship be-

tween income and output was clearly seen only when it was realized that national income measurement is best thought of as double entry bookkeeping, involving the consolidation of the operating accounts of all productive enterprises in the economic system, including government.<sup>2</sup>

Those parts of the consolidated operating account which are pertinent for purposes of national income measurement are *revenue from sales* and the *disposition of revenue from sales*. To make national income measurement complete, the value of capital formation on force account must be included. This can be regarded as a sale by a business enterprise to itself, and its value is included within *revenue from sales* when that term is used below. Complete consolidation of the revenue from sales of all productive enterprises in the economic system, with one adjustment, eliminates intrabusiness payments which are revenue to one enterprise and a cost of goods or services sold to another, and yields an unduplicated total figure of the value of goods and services produced in the economic system. The adjustment<sup>3</sup> is subtraction of purchases from foreigners—imports and also payments for ocean freight, marine insurance, and the like. This part of the total value of the final product was not produced in the economic system.

In this process of consolidation, there is

<sup>2</sup> And including as a productive enterprise every housemaid or chore boy or other individual who sells his services directly to a consumer.

<sup>3</sup> Inventories must also be handled so that during periods of changing prices the consolidated total includes the value of the change in inventories, not the change in the value of inventories. It may also be noted that the total arrived at makes no allowance for depreciation.

<sup>1</sup> This description will duplicate slightly one section of Mr. Friend's paper. Mr. Friend's paper presents added useful information concerning the social accounts.



considerable controversy about how sales to and payments to government shall be treated, but since the possible alternatives here do not affect the principle which I am discussing, I shall not mention them.<sup>4</sup>

The total value of output thus arrived at is the total commonly referred to as gross national product. A useful classification of the gross national product—that is, of the total revenue of productive enterprises from sales—is into the following group of goods and services produced:

1. Sales to consumers.
2. Gross capital formation—that is, new investment by business enterprises in plant, equipment, and inventories, without deduction for depreciation. Purchases of new homes by consumers for their own use could be classified either as capital formation or as consumer purchases. For convenience, they are usually classified under capital formation, since other residential construction appears under this rubric.
3. Goods and services produced by government.
4. Goods and services sold to foreigners by residents of the United States, minus goods and services purchased by U. S. residents from foreigners. In any given year, of course, this last item may be positive or negative.

A complete consolidation of the *disposition of revenue from sales* likewise eliminates the duplication involved in payments from one business enterprise to another which are costs of current production, and yields (1) total national income, plus (2) charges to business reserves (of which the main one is depreciation and depletion allowances), plus (3) "business taxes."<sup>5</sup> These three items which show the disposition of the revenue from sales, add up, of course, to the total revenue from sales, that is, to gross national product. Gross national product can, therefore, be estimated either

on the *revenue from sales* side, by estimating the value of the four classes of sales listed above, or on the *disposition of revenue from sales* side, by estimating national income plus business charges plus business taxes. The two independent measurements, if there were no errors of estimate, would yield exactly the same total. The U. S. Department of Commerce now estimates both sides for the United States, for each quarter year, and publishes a reconciliation showing the statistical discrepancy between the two estimates.

Measurement of either side, if the measurement is to be more than an educated guess, involves the aggregation and skillful analysis of an enormous mass of detail, relating to every type of business enterprise and to every type of economic activity. When national income measurement had developed to this stage, it became realized that from the data available there could be constructed operating accounts, not only for the entire economic system, but separately for each of the major economic groups within the economic system. Almost at once it became realized that the income and expenditure accounts for each of these groups might have value for analytical purposes independent of and perhaps even greater than the value of the measurement of national income as a whole.

These interlocking sets of accounts, including both those for the economic system as a whole and the sub-accounts or sector accounts for various sectors within the system, are known as the national accounts, or the social accounts. One of the simplest and for many purposes the most useful set of social accounts breaks the economic system into four sectors—government, business enterprises, consumers, and the transactions between the economic system and the rest of the world. The U. S. Department of Commerce publishes quarterly data for these four sectors of the

<sup>4</sup> My discussion implicitly accepts the treatment followed by the U. S. Department of Commerce.

<sup>5</sup> That is, sales and excise taxes and other taxes not on profits for which business enterprises write the check to the government.

United States economy in the *Survey of Current Business*; and the Economic Reports of the President, in a tabulation known as the "Nation's Economic Budget," present a modified analysis for the same four sectors. These four sectors may in turn be separated into a number of smaller sub-sectors of which they are composed.<sup>6</sup>

Construction of the social accounts not only permits analysis of the income and expenditure of each economic group, and hence of the group's contribution to the flow of economic activity. It also makes possible analysis of the interrelationships between groups and between types of economic activity—for example, between income and consumption; consumption and investment; savings and the use of the funds saved; governmental activity and private production; imports and the means of paying for them; changes in domestic economic activity and the resulting changes in the volume and types of imports.

#### THE ECONOMIC PROBLEM FACING WESTERN EUROPE

After this cursory description of the development of social accounting, let me turn to the European situation which gave rise to the European Recovery Program.

Before the war, Europe (including the United Kingdom) provided itself with the goods and services it needed in two ways:

First, and mainly, by its own production—most of which it consumed directly, and part of which it exported to pay for imports of types of goods which it could not produce efficiently.

Secondly, Europe paid for added imports by using its income from investments abroad. With profits and interest on capital invested abroad in previous generations, Europe purchased goods in addition to those which she provided for herself out of current production.

The war destroyed a significant percentage of Europe's productive capacity. Social and economic disorganization added to the effect of direct physical destruction. Of especial importance, income-earning assets held abroad were reduced, partly by physical destruction, and, especially in the case of the United Kingdom, by being sold during the war to raise funds with which to buy munitions.

Europe's postwar supply of goods and services has been reduced, not merely by the reduction of productive capacity in Europe, but also by this partial loss of investments abroad whose earnings had been so vital in financing imports.

As a result, only by outside aid, notably from the United States and Canada, has greater suffering in Europe than actually occurred been prevented.

With this aid, continued recovery in productive capacity (with some setbacks in early 1947), has taken place. In mid-1948, industrial production in the western European countries participating in the Marshall Plan, including Germany, was on the average approximately at the prewar level. And agricultural production in 1948<sup>7</sup> is up to prewar.

But this is by no means enough to prevent suffering. For the population of western Europe has increased by roughly one-tenth in the past decade, in spite of the grim economic situation. Production *per capita* is therefore below prewar by almost one-tenth. Moreover, as was noted above, supplies from abroad financed by the income from foreign investments can no longer be purchased in prewar volume, for some of the income is gone. Thus the per capita supply of goods and services which would be available to Europe without outside aid, though much above the level at the war's end, is still more than one-tenth below the level a decade ago. This is an

<sup>6</sup> The Department of Commerce publishes data for a number of sub-sectors.

<sup>7</sup> According to the latest estimates available in August, when this paper was prepared.

average. The situation in urban France, in Italy, in Greece, in western Germany and Austria, is worse than this; in Scandinavia and the Low Countries, considerably better.

The supply of goods available to consumers would be even less, relative to prewar, than the total supply; for an abnormally high share of total production must be devoted to investment purposes. And the present inability of export industries, notably in the United Kingdom and western Germany, to produce enough goods for sale abroad to finance vitally needed imports, would create an especially grim situation in those countries.

In these circumstances, if western Europe were left to her own resources now, the results would be catastrophic. Consumption would be depressed to a level which, I think, would almost certainly lead to social revolution in France, in Italy, in Greece, in western Germany, in Austria, and in Britain.

Europe is in the position of a poor man, his home and shop partly destroyed by an explosion and fire, who could increase his income if he could make or buy some new tools, but who needs his income so badly to maintain his family's minimum needs that he cannot spend any of his time or money to make or buy the tools. He is caught in a trap. Without aid he cannot get out. Meanwhile, his lot is making him miserable and resentful, and he is almost ready to turn on his present government and throw it out. However, his rich neighbor down the street, whose property was not damaged by the fire because Europe's property was in the way, has offered aid, and the two of them are discussing methods of reconstruction. With this aid and moral support, Europe feels more hopeful, and is less unstable emotionally about the whole problem.

This parable, I should say parenthetically, applies especially to the urban population of western Europe. The rural pop-

ulation, with some exceptions, is in better shape.

#### THE EUROPEAN RECOVERY PROGRAM

The aid which has been offered is of course the European Recovery Program. The purpose of the European Recovery Program is neither merely to furnish relief, nor merely to finance investment wherever investment projects seem financially sound or self-liquidating. It is to restore by 1952 the capacity of western Europe to maintain a tolerable level of living without outside aid—or, in the vivid language used by the European countries themselves, to make the European economy viable. This will require increasing the productive capacity and efficiency of western Europe.

Even though productive capacity in general becomes adequate, financing the imports which Europe needs will be an especially tough problem. All of Europe's prewar exports of goods and services financed only part of her imports; the rest were financed by the income from investments. Since part of that income is gone, added exports must take its place. Exports must therefore exceed the prewar level, to finance the prewar volume of imports. To increase imports above prewar, exports must be further increased accordingly; and to the extent that United States aid is in the form of loans to be repaid, exports from Europe must be increased still further. Heroic efforts will be required to determine which industries can hope to find adequate export markets, and to expand sufficiently the capacity of those industries.

U. S. aid under the Recovery Program will increase the supply of goods available to western Europe by roughly 5 per cent. It is obvious that U. S. aid must be a part of a total undertaking utilizing all of the resources of western Europe. For an added 5 per cent can be worth while, only if the initial 100 per cent is efficiently used. If would be futile and wasteful for the U. S.

to furnish dollars to finance vitally needed imports, while other dollars which participating countries had acquired by exports or otherwise were used wastefully.

The participating countries have the utmost incentive to manage all of their resources so as to move as effectively as possible toward the recovery goal. Nevertheless, prudent administration of the U. S. funds appropriated for the Recovery Program by the Congress requires that the United States Government verify this effective use of resources rather than take it for granted. Periodic re-appraisal of the feasibility of the Program, as it develops, is also desirable. The U. S. Economic Cooperation Administration has therefore asked the participating countries to submit jointly a four-year program showing how they expect to achieve a self-supporting (*not* a self-sufficient) economic status by 1952-53, and also an annual program showing in more detail proposed steps toward that goal during the coming twelve months. Thus, in order to assure the prudent expenditure of U. S. funds, the ECA has become the final arbiter of the economic development program of western Europe.

#### SOCIAL ACCOUNTS IN THE OEEC

The first annual and the four-year program are now being prepared by the Organization for European Economic Cooperation—the organization formed by the participating countries on the basis of information submitted by each country. The first annual program, which covers the fiscal year 1948-49, will estimate the total production and use of key commodities in each participating country during the year; total trade among these countries; total imports and exports of goods and services by each country and how the gap between imports and exports is expected to be financed; and measures which will be taken to increase production, move toward

economic stability, and make the gap as small as possible. As a necessary part of the computation of how the gap between imports and exports is to be financed, the annual program will contain a recommendation of how available Marshall Plan aid shall be allocated among the participating countries. Only when OEEC has reconciled the proposed programs of its member countries, and prepared a joint program approved by all, and has consulted with ECA and obtained ECA approval of the program as modified during consultation—only then will ECA make a firm allocation of aid to each country.<sup>8</sup>

The four-year program, which will be received by ECA before the end of this calendar year, is in effect a re-appraisal of and sequel to the document originally submitted by the Paris organization in response to Secretary Marshall's invitation. It will itself be subject to periodic re-appraisal. It provides the broad framework within which each annual program rests. It will state the goals of over-all output, of imports, and of exports to be attained by each country by 1952 and will estimate the investment needed in the interim to attain them. It will indicate the nature of the measures which will be taken to increase productivity; to attain the fiscal and monetary stability necessary to encourage exports and the flow of funds into investment; and to relax trade restrictions and increase the flow of trade among the countries and with the rest of the world.

The boldness and the difficulty of the forecasts which must be made are hardly indicated by this prosaic statement of the scope of the four-year program. Among the questions which must be answered are:

<sup>8</sup> The first annual program will be received in September. Until then, ECA is granting funds from quarter to quarter on the basis of its own adjustment of requests made by each country without substantive review by OEEC. The second annual program, for 1949-50, will be completed before the request to Congress for appropriations for that year.



How great total production can be attained year by year as the Recovery Program proceeds?

What goods and services will western Europe be importing from the rest of the world by the end of the Recovery Program, i.e. in 1953, if the Program is carried out?

How much goods and services must be exported annually by Europe, after the end of the Program, in order to balance the international accounts and pay for the imports?

Can markets for the exports be found?

What level of consumption will the people of western Europe be able to buy with the income they will have by 1953?

How much productive capacity will be needed in 1953 to furnish the goods and services needed for consumption and in addition to produce the exports which must be sold to pay for imports?

How much must be invested in new plant and equipment each year between now and 1953, in order to obtain by that time the productive capacity needed, and in what industries? What steps can be taken to increase the efficiency of present capacity, and thus reduce the need for investment?

If the necessary investment is to be made, year by year, between now and 1952, how low must the level of output for current consumption be held in order that the necessary amount of goods and services may be diverted to investment? Is this level socially feasible? Is it consistent with the level of worker efficiency planned?

In other words, is the entire Program feasible, or does it visualize a rate of investment too great to be achieved?

If the planned amount of investment is carried out, the total demand for goods and services during the course of the Program will be greater than the amount available, unless part of the demand is suppressed by regulatory measures. How great will the resulting inflationary pres-

sure be? What steps must be taken to meet it?

The nature of these questions may be summarized as follows: *The participating countries are being asked to analyze their social accounts, in order that their plans for economic development may be based upon the knowledge thus obtained.* For there is no way of obtaining the necessary answers, except by analysis of the social accounts. For example, there is no way of estimating the demand for consumers' goods in 1953, except by estimating the purchasing power which total production will put into the hands of consumers, and the demand which that purchasing power will create.<sup>9</sup> Again, the increase in necessary imports as production expands can be estimated only by deriving from past experience the relationship between production of various types (heavy goods, consumer goods, etc.) and imports. The capacity to export can be estimated only by estimating total production and subtracting estimates of necessary total domestic consumption and total domestic investment, and so on.

These are difficult questions, with complex answers. At best, present answers can be only goals, to be adjusted as estimates improve. Obtaining reliable answers now is the more difficult, not only because many of the countries concerned do not possess adequate statistical information about their own economic systems, but also because they are not planned economies. These countries exercise, of course, varying degrees of control over consumption and investment, and because of the shortage of foreign exchange it will be necessary for virtually all of them to control for years to come imports and the use

<sup>9</sup> The relationship of consumption to total production in the past may be noted, and this relationship projected to 1953. This, however, is merely one way of making the estimate of the relationship of consumer demand to consumer income to total production referred to in the text above. In any case, allowance must be made for stored up purchasing power in the form of liquid assets, etc.

of foreign currencies which their citizens may obtain. But even with these regulations, they remain countries in which the market decisions of individuals, rather than the planning decisions of government bodies, are the dominant economic force. Decisions to invest or to consume will be made by thousands of individual entrepreneurs and millions of consumers. And in spite of the need for ECA approval of the over-all economic programs of these countries, it is not the intention of ECA to foster a movement toward planned economies. Quite the contrary.

Yet the over-all questions I have posed must be answered, in order that the United States government may have assurance that its aid is not being wasted and that the probability of success of the Recovery Program is high. On the basis of answers to these questions, the Economic Cooperation Administration must continuously evaluate the Recovery Program, to decide as it progresses whether it continues to appear feasible; must apportion

the total aid available between the participating countries; must decide, before approving each annual program, what share of Europe's total imports ought to be consumer goods and what share capital goods; and must decide what share of the aid to each country can be repaid and shall be in the form of a loan, and what share cannot be repaid and ought to be in the form of a gift.

The "practical man" may be inclined to dismiss these theoretical analyses, and to insist that American aid be granted simply on a "practical basis." But the only practical basis for American aid is one which assures that that aid is achieving maximum progress towards a situation in which Europe can maintain without outside aid a level of living that is socially and politically tolerable. Aid on any other basis is wasteful. And to achieve that practical basis, it is necessary to rely upon the analysis of the social accounts which I have described.

## SOCIAL ACCOUNTING FOR MONEYFLOWS

MORRIS A. COPELAND

**O**UR ECONOMY HAS SUFFERED in the past from business depressions and unemployment, and in spite of the present high level of business activity there is no reason to think depressions have been eliminated. If we look beyond the immediate situation, unemployment is still our most important economic problem. Because we live in a money economy where moneyflows play an important role in organizing economic activity, a better understanding of moneyflows should help us toward a better understanding of the

problem of maintaining reasonably full employment.

The study in which I have been engaged aims to provide measures of moneyflows that will answer questions such as these: when total purchases of our national product increase where does the money come from to finance them? When purchases of our national product decline, what becomes of the money that is not spent? Is it hoarded, or what? Who has and exercises discretion to increase or decrease expenditures on national product? What part do



cash balances, other liquid asset holdings, and debts play in the cyclical expansion and contraction of moneyflow?

Moneyflows arise out of transactions. Because they arise out of transactions they are recorded in accounts to the extent that the transactors involved keep books. Because they arise out of transactions, too, over-all estimates of the moneyflows in our economy lend themselves to presentation in financial statement form. Such a form of presentation has the great advantage of organizing the component moneyflow estimates into a systematic picture, a picture that brings out a number of equalities between debit totals and credit totals. These equalities facilitate the process of making statistical estimates of moneyflows. They are also very useful in making economic interpretations of moneyflow figures.

The preparation and interpretation of over-all economic statistics in financial statement form is a procedure that has come to be known as social accounting. Social accounting, as a procedure of economic research, has already yielded highly valuable returns. But in my opinion it is only in its infancy. The real growth of social accounting lies ahead. I believe the next two or three decades will see a great expansion of social accounting.

The most familiar and extensive use of social accounting today is in the field of national income. But this is only one of its potential uses. To an accountant the idea of a national balance sheet seems a logical corollary of the idea of a national income statement. Economists have had a great deal to say about wealth, but they have only begun to approach the study of wealth via social accounting. We haven't done much toward constructing a national balance sheet.

The subject of money, credit and moneyflows lends itself to a social accounting approach. But a different approach to

this subject has been customary, an approach in terms of an analogy to a physical, hydraulic circuit. Although Irving Fisher gave a great impetus to the social accounting approach to national income and wealth, he used the customary hydraulic approach to moneyflows. So did J. M. Keynes. The social accounting approach to moneyflows is a recent development. I think the study in which I have been engaged may be called the first comprehensive effort in this direction. The slow development of a social accounting approach in this field is, I think, due in large part to the fact that a quite different kind of social accounting approach is needed here from that appropriate to national income.

If this approach has been slow in developing, the need for it none the less is urgent. The subject of money, credit, and moneyflows is a highly technical one, but it is also one that has a wide popular appeal. For centuries it has attracted quacks as well as serious students, and there has too often been difficulty in distinguishing a widely held popular belief from a competently formulated and tested scientific hypothesis.

I have said that the subject of money and moneyflows lends itself to a social accounting approach. Let me go one step farther. I am convinced that only with such an approach will economists be able to rid this subject of the quackery and the misconceptions that have hitherto been prevalent in it.

But what are moneyflows and how can they be measured? Briefly moneyflows are sources and dispositions of money that arise out of transactions between two transactors. Let me emphasize the two transactors. There are transactions, as the accountant uses the term, that involve only one transactor and that are not moneyflow transactions, e.g., debit depreciation expense, credit depreciation re-

serve. Because moneyflow transactions involve two transactors the social accounting approach to moneyflows rests not on a double-entry system but on a quadruple-entry system. Let me give the journal entry for your purchase of a pound of beefsteak from the cash-and-carry. For the cash-and-carry debit cash \$1.30, credit receipts from customers \$1.30. For you debit customer expenditures \$1.30, credit cash \$1.30.

I have said that the moneyflows of our economy can be summarized in financial statement form. The national income for any year can be summarized in a statement that takes the form of a single balancing account. But to summarize moneyflows usefully we must divide our economy into a number of sectors or groups of transactors and prepare a separate balancing statement for each sector. We need an exhibit that will report each moneyflow both as an inflow to some one sector and as an outflow from some other. The need for such an exhibit is one of the major differences between the social accounting approach to national income and that to moneyflows. I shall mention others presently.

But we can get a better idea of the nature of moneyflows if we consider first the form of financial statement appropriate to exhibit them. A major task in the moneyflows study I have been making was the development of this form of statement. There are four criteria for such a statement.

- 1) To reveal moneyflows, if we take the term naively, the statement should be on a cash basis. In general such a basis was adopted, but considerations of expediency led to one very significant deviation from a strict cash basis, to be noted shortly. I shall therefore refer to the statements developed in the study I have been making as being on a moneyflows basis.

- 2) To facilitate interpreting and interrelating the statements for the several

sectors of the economy it seems essential to adopt a standard form for all of them. One problem such a standard form involves is the diversity of accounting conventions. We have one set of conventions in the general business field, quite a different set of conventions for government accounting, a still different set for insurance. The statement form must be a kind of greatest common denominator for the various accounting conventions.

- 3) The statement form should reveal not only moneyflows but also cash balances and various other balances that perform similar or closely related functions.

- 4) Except for changes in cash and in related balances, moneyflows should so far as feasible be reported gross; inflows should not be netted against outflows; all moneyflows of general economic significance should be disclosed.

No generally recognized form of financial statement fully meets these four requirements. A special form had to be devised. But it is not entirely new. It is a modification of the sources and application of funds statement. Further it is, I believe, a form that has been implicit in a good deal of economic thinking. I call it a statement of payments and balances. Let us take the statement for households as an illustration.

Part One shows ordinary receipts—all nonfinancial sources of money—and net money obtained through financial channels. It also shows all ordinary expenditures and net money advanced to finance others or returned to others.

Statements of payments and balances similar to that before you have been prepared for the other sectors of the economy. Ordinary receipts and expenditures are detailed on the several statements in general conformity with a standard object classification of accounts. This standard classification facilitates the making of the statistical estimates. It also helps us in tracing the economic impact of one sec-

tor's activity on other sectors. There are thirteen main objects of ordinary receipt and expenditure in this classification, illustrated by lines A through G, insurance benefits (lines H, J, and K taken together), and lines K, S, U, V, and W.

I have said that Part One of this statement is on a moneyflows basis. Eleven of the thirteen categories of ordinary transactions, all except lines E, T, and U, are reported on a cash basis. The transaction is entered at the time of settlement. So are the cash sales included in lines E and T. But credit sales included in lines E and T and instalments to contractors (line U) are reported on a book credit basis; the transaction is entered at the time the customer is charged on the books of the seller or construction contractor.<sup>1</sup>

Part Two of the statement of payments and balances gives a partial balance sheet. The asset items shown are called loanfunds receivable and the liability items loanfunds payable. Line K shows the net loanfund balance receivable. Changes in this net balance are due partly to writeups and writeoffs during the year. The only such revaluations affecting the household statement are those for forgiven debts. When we exclude the effects of book revaluations from the increment in net loanfunds receivable, we get line p on the household statement. This appears in Part One as the net money obtained through financing (line N) or net money advanced or returned (line b). Thus the changes in a sector's financial structure are related to its ordinary or nonfinancial transactions.

There are eleven sectors or transactor groups for which statements of payments and balances for 1936-42 have been prepared. They include farms, nonfinancial

corporations, other nonfinancial enterprises, the federal government,<sup>2</sup> other governments, banks and U.S. monetary funds, three other financial groups, and the rest of the world. The statement of payments and balances for the rest of the world is a modified form of the balance of international payments statement. The statement for the federal government is useful not only as a part of the moneyflows measurements but also as an exhibit of federal finances standing by itself.<sup>3</sup> Official statements are difficult to interpret. Try to find in them the total federal cash balance, for example, or federal accounts payable. The statement of payments and balances answers these and a large number of other significant questions. And it gives a consolidated report for the government considered as a single transactor. There has been an urgent need for a comprehensive federal financial statement summarizing the major aspects of fiscal policy that affect general business activity. The statement of payments and balances is a form particularly adapted to filling this need.

I shall have to ask you to imagine for a moment that you have a statement of payments and balances for each of the eleven sectors before you. I want to call your attention to four fundamental propositions that follow from such a set of statements. Let me first state them baldly and then add some qualifications.

- 1) For any transactor for any period total sources equal total dispositions of money.
- 2) A source of money for one transactor means a disposition of money by someone else, and vice versa.
- 3) A loan fund receivable for one transactor means a loan fund payable by someone else and vice versa.

<sup>1</sup> In the present state of our information it has not been possible to conform as fully to the fourth criterion as would theoretically be desirable. To a minor extent there is netting of some ordinary receipts and expenditures in the various sector statements.

<sup>2</sup> Monetary funds and funds of the District of Columbia and of territorial governments are included in other sectors rather than as parts of the federal government.

<sup>3</sup> See *Concerning a New Federal Financial Statement, Technical Paper No. 5*, National Bureau of Economic Research, 1947.

## STATEMENT OF PAYMENTS AND BALANCES FOR HOUSEHOLDS

(Millions of Dollars)

	1935	1936	1937	1938	1939	1940	1941	1942	Source
PART ONE: MONEY FLOWS									
ORDINARY RECEIPTS AND OTHER SOURCES OF MONEY									
A Gross Cash Pay.....	—	41,000	45,200	42,100	45,100	48,900	60,400	79,100	HH 101 A
B Cash Dividends.....	—	4,600	4,700	3,300	3,800	4,000	4,500	4,300	HH 101 D
C Cash Interest.....	—	2,800	2,700	2,700	2,700	2,700	2,700	2,500	HH 101 G
D Net Owner Take-Outs.....	—	8,100	10,000	8,800	9,000	10,200	13,000	15,700	HH 101 K
E Receipts from Customers (for Secondhand Goods).....	—	120	140	120	140	160	180	100	HH 101 P
F Net Payments for Real Estate Transfers.....	—	800	800	800	800	800	800	800	HH 101 Q
G Tax Refunds.....	—	10	20	20	20	30	30	30	HH 101 V
H Unemployment Compensation Benefits.....	—	0	400	400	440	540	360	360	HH 102 A
J Benefits from Other Social Insurance Funds.....	—	280	340	440	480	540	620	740	HH 102 G
K All Other Insurance Benefits.....	—	2,500	2,600	2,700	2,800	2,800	2,800	2,800	HH 102 T
L Public Purpose Payments.....	—	3,460	1,320	1,480	1,560	1,620	1,600	1,560	HH 103 I
M Total Ordinary Receipts.....	—	63,700	67,800	62,800	66,800	72,300	87,000	107,900	A thru L
N Net Funds Obtained through Financing.....	—	0	0	400	0	0	0	0	-p when p < zero
P Total Sources of Money.....	—	63,700	67,800	64,200	67,500	72,300	87,400	110,800	M+N <sup>1</sup>
ORDINARY EXPENDITURES AND OTHER DISPOSITIONS OF MONEY									
Q Gross Cash Pay (Chiefly to Domestic Servants).....	—	760	880	760	860	940	960	1,100	HH 201 C
R Cash Interest.....	—	1,360	1,380	1,320	1,320	1,400	1,540	1,300	HH 201 D
S Gross Rents.....	—	3,300	3,600	3,800	3,900	4,000	4,300	4,500	HH 201 E
T Spent by Households as Customers.....	—	47,400	51,000	48,500	51,200	55,100	63,700	69,700	HH 201 F
U Installments to Contractors.....	—	660	800	800	1,040	1,200	1,420	800	HH 201 P
V Taxes Collected.....	—	2,600	3,700	3,500	3,200	3,500	4,300	7,100	HH 202 X
W Insurance Premiums.....	—	4,200	4,300	4,300	4,300	4,600	4,900	5,200	HH 203 N
X Public Purpose Payments:	—	960	1,080	980	960	1,060	1,040	1,260	HH 203 Q
Y To Private Agencies and Institutions.....	—	180	180	160	140	180	140	100	HH 203 R
Z To Governments.....	—	30	30	30	30	30	30	40	HH 203 P
a Total Ordinary Expenditures.....	—	61,400	66,900	64,200	67,000	72,000	82,300	91,200	Q through Z
b Net Funds Advanced to Finance Others.....	—	2,200	500	0	400	100	5,100	19,600	p when p > zero
c Total Dispositions of Money.....	—	63,700	67,800	64,200	67,500	72,300	87,400	110,800	a+b <sup>2</sup>

## STATEMENT OF PAYMENTS AND BALANCES FOR HOUSEHOLDS

(Millions of Dollars)

	1935	1936	1937	1938	1939	1940	1941	1942	Source
PART TWO: LOAN FUNDS									
<b>ASSETS, DECEMBER 31</b>									
d Currency and Deposits.....	29,000	31,800	32,200	32,400	34,900	36,600	40,200	47,200	HH 301 H
e Federal Obligations.....	9,300	9,800	10,400	10,000	10,200	10,700	13,600	22,300	HH 301 I
f Other Loans and Securities.....	110,700	110,500	110,500	110,300	109,400	108,900	108,600	108,900	HH 301 J
g Total Loan Funds Receivable.....	149,000	152,000	153,100	152,700	154,500	156,100	162,300	178,400	d+e+f
<b>LIABILITIES, DECEMBER 31</b>									
h Accounts Payable.....	2,600	3,100	3,400	3,400	3,600	3,900	4,200	3,200	HH 301 O
i Other Debts Payable.....	21,900	21,900	21,600	21,100	21,800	22,500	22,800	19,700	HH 302 R
j Total Loan Funds Payable.....	24,500	24,900	25,000	24,500	25,400	26,400	27,000	22,900	h+i
<b>COMPUTATION OF LOAN FUND FINANCING</b>									
k Net Loan Fund Balance Receivable, December 31	124,400	127,100	128,100	128,200	129,100	129,700	135,300	155,500	g minus j
m Increment in Loan Fund Balance Receivable....	—	2,700	1,000	100	900	600	5,600	20,100	Increment in k
n Net Gains a/c Forgiven Debts.....	—	500	500	500	500	500	500	500	HH 302 S
p Funds Advanced Less Funds Obtained.....	—	2,200	500	-400	400	100	5,100	19,600	m minus n
† Includes net sources of funds not accounted for as follows		0	0	1,000	700	0	500	3,000	
‡ Includes net uses of funds not accounted for as follows		100	400	0	0	200	0	0	
§ Less than \$10 million.									

Note: Due to rounding, figures for various lines calculated by formulas given in the source column may differ slightly from the entries shown.



4) An increase in a loan fund balance receivable is a disposition of money by the holder; for someone else it means a decrease in a loan fund balance receivable or an increase in payables and a source of money. The converse holds for this proposition too.

These four propositions follow from the assumption that the social accounting approach to the subject of money, credit, and moneyflows rests on a quadruple entry basis. But we must not forget that the eleven sector statements are not an accounting recapitulation; they are only a statistical approximation. Each of the four propositions states an equality between debits and credits, and in each case the equality may not quite hold. We must recognize the presence of statistical discrepancies in and between the eleven statements. Nor is this all. Propositions 2, 3 and 4 assert relations between two sector statements. They assume an accounting uniformity that has not been fully achieved statistically. They must be qualified also, therefore, by noting that there are deviations from a uniform accounting procedure. I shall say something about these deviations in a moment; but before doing so I should like to consider some economic corollaries of the four propositions that do not appear to be materially weakened either by the existence of statistical discrepancies or by the failure to achieve accounting uniformity.

First let me indicate how corollaries of the four propositions can be used to correct a somewhat prevalent misconception in regard to moneyflows and the nature of inflation. This misconception is fostered by speaking of banks as "creating" deposits. The process so designated is supposed by some to provide a financial source of money for all transactors taken together, a source of money to which no financial disposition of money corresponds. And the added financial source is supposed to be spent in the form of increased or-

dinary expenditures, and so to lead to inflation. From the point of view of social accounting these suppositions regarding the way in which moneyflows expand are sheer nonsense.

What happens when the cash balances of nonbank transactors increase? Commonly we have the following:

For banks and U. S. monetary funds

The increase in currency and deposit liabilities is a source of money.

There is an equal disposition of money—an increase in loans and securities held and/or the monetary gold stock.

For nonbank (i.e., all other) transactors

The increase in cash balances is a disposition of money.

The increase in debt to banks or decrease in portfolios is a source of money or—for the rest of the world—gold imports into the U. S. are a source of money.

This is what commonly happens. It does not cover all the possibilities but it covers what is presumably meant by saying banks "create" deposits. And there is no net financial source of money either for banks and U. S. monetary funds or for nonbank transactors. In each case what we have is change in the composition of the net loan fund balance receivable, not a change in the amount of the net balance.

Probably the most important qualification to add to this statement of the case is that an increase in nonbank cash balances, if initiated or encouraged by banks, is likely to mean reduced interest rates.

The second group of corollaries I wish to mention is far more significant. It is also a far more complicated affair and I shall only be able to outline it. First let me reformulate propositions 2 and 4. For all transactors together:

5) Total ordinary receipts equal total ordinary expenditures, and

6) Money advanced or returned minus money obtained through financial channels equals zero.

Now these two propositions do not hold for the individual transactor. He has more or less discretion to increase his ordinary expenditures and to make up any excess of such expenditures over ordinary receipts by drawing down his net loan fund balance receivable. A transactor's discretion to increase his ordinary expenditures will be limited by various factors including the size of his balance and his credit standing. The individual transactor has more or less discretion not only to expand his ordinary expenditures but also to contract them and add to his net loan fund balance receivable.

Cyclical expansions in the total moneyflows in the economy are brought about when some transactors dishoard their loan fund balances and expand their ordinary expenditures. Let us call transactors who so initiate expansion "bulls." The money required by bulls to finance their cash deficits is always and necessarily advanced or returned to them by others. Let us state this point in social accounting form:

For bulls

The excess of ordinary expenditures over ordinary receipts equals money obtained through financing. Total sources equal total dispositions of money.

For all others together

The excess of ordinary receipts over ordinary expenditures equals money advanced or returned. Total sources equal total dispositions of money.

For all transactors

Total ordinary receipts equal total ordinary expenditures.

Essentially the process by which an expansion in moneyflows—and an expansion in general business activity—is initiated is one in which some transactors, bulls, exercise their discretion to increase their ordinary expenditures. They obtain the money for this increase through financial channels. Others get increased receipts,

and advance or return money to bulls through financial channels. Thus the federal government's ordinary expenditures expanded during the war and it made up its deficit by borrowing. For other sectors taken together ordinary receipts increased more than ordinary expenditures by an amount just sufficient so that they absorbed the additional U. S. securities.

The process by which a general contraction in moneyflows is initiated is somewhat analogous. I shall not stop to outline it except to say that some transactors exercise their discretion to curtail ordinary expenditures and add to their net loan fund balances receivable, to stint and hoard. We call such transactors "bears."

In addition to bulls and bears there are many transactors who are relatively passive; they just follow the leader. They are called "sheep."

A major finding of our moneyflows study is that the moneyflows of bulls, bears, and sheep have quite distinctive patterns. The sector statements of payments and balances provide information that, during most of the period covered by the study, enable us to say with a good deal of confidence which sectors are actively promoting expansion or contraction of business, and which are relatively passive. I submit that this finding is of great potential importance. To test it out we shall need moneyflow measures on a current basis.

I have indicated that banks do not create a financial source of money for anyone, and that they do not initiate inflation. But they do participate very extensively in the moneyflows that pass through financial channels from one nonbank sector to another. In fact it seems fair to say that banks *are* the channels for a substantial part of financial moneyflows. For this reason banks can do a great deal to facilitate the process of expansion of total moneyflows and to aggravate the process of contraction. Statistical measures of this

participation can be derived from the statements of payments and balances. If, as I hope, it proves feasible to compile these measures of bank participation in financial moneyflows currently, the informational basis for our credit policy should be very materially strengthened.

We shall have to leave the subject of the economic corollaries of the quadruple entry system with these somewhat inadequate comments. For simplicity I have spoken as if there were no statistical discrepancies and no deviations from accounting uniformity. As the moneyflow estimates stand, deviations from accounting uniformity are less in evidence than they should be. This is because it is often necessary to estimate a debit item on one statement from a credit item on some other statement, or vice versa. There are three kinds of deviations that have had to be reckoned with.

- 1) Those due to differences in the timing of entries into the accounts.
- 2) Those due to differences in the valuation of loan fund balances.
- 3) Those due to differences in the classification of accounts.

I can only give an illustration of each.

Theoretically we might expect the cash balances of nonbank transactors to equal the currency and deposit liabilities of banks and U. S. monetary funds. Actually the estimated cash balances are smaller. This is due principally to the mail float. The mail float also tends to produce an opposite discrepancy between trade receivables of all transactors and total trade payables. There are always cheques in the mail in transit between maker and payee. On the makers' books such cheques have been credited to cash and debited to some other account, presumably in most instances debited to trade payables. On the payees' books they have not yet been debited to cash and credited to trade receivables. These cheques constitute the

mail float. It tends to produce a credit balance in what I call the national currency and deposits account and a debit balance in the national book credit account. These two mail float discrepancies represent the only important kind of deviation from a uniform timing of entries that shows up in the estimates.

To the extent that we have independent data on portfolios the stocks they include are in general presumably valued on a cost or market formula. In the corporate sector statements<sup>4</sup> an attempt has been made to show stock outstanding on a paid-in-capital basis. Chiefly for this reason the value of total loans and securities held exceeds the value of outstandings.

So far as the moneyflows figures are concerned this difference is of consequence only to the extent that valuations are changed during the year. In computing the net financial moneyflow for any sector it is necessary to exclude the effect of portfolio valuation changes on the total book increment in net loan funds receivable. With present data this involves a good deal of guessing.

There are several points at which it has seemed wise to deviate from a standard classification of accounts. None of them greatly affects the over-all picture. The monetary gold stock affords an illustration. This item is treated as an asset of banks and U. S. monetary funds. A secondary factor in changes in gold stock is domestic production. The sale of gold by domestic producers is treated in the same way as the sale of copper or zinc. Thus an increase in the gold stock from domestic sources appears on the statement for banks and U. S. monetary funds as a financial disposition of money and on the statement for nonfinancial corporations under receipts from customers. To a minor

<sup>4</sup> These three sectors are entitled industrial corporations, banks and U. S. monetary funds, and security and realty firms *et al.* The third is partly noncorporate.

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extent this tends to make money advanced or returned by all transactors exceed money obtained through financing, and receipts from customers exceed the total of customer expenditures. Furthermore, because of this deviation from a standard classification of accounts, there is a minor part of the monetary gold stock (i.e., of a loan fund receivable by banks and U. S. monetary funds) for which there is no corresponding loan fund payable item on the statements of payments and balances for other transactors.<sup>5</sup>

There are various important aspects of social accounting for moneyflows that I can only mention. The statement of payments and balances for a business corporation is radically different from the ordinary type of financial statement, though the moneyflow statement can be derived from the other if sufficient object detail is disclosed and if there are appropriate supporting schedules on some of the balance sheet changes. A corporation is quite likely to show a deficit in its ordinary transactions account when on the usual reckoning it is in the black, and a surplus in its ordinary transactions account when it is in the red. But this fact does not reflect on the significance of either type of statement; each of them tells a significant story.

Part One of the statement of payments and balances is clearly not a cash account. But I suspect that some economists have commonly had something like Part One in mind when they thought they were talking about a cash account.

However, it must be admitted that Part One omits a very large volume of moneyflow transactions. This is primarily because money obtained or advanced through financial channels is shown on a net basis. The transactions that are netted

out, e.g., the cashing of a cheque, I call technical transactions. Although the volume of technical transactions is very large, I think their general economic significance is very small.

There is one item of unfinished business: the differences between the social accounting approach to national income and wealth and that to moneyflows. I have mentioned the quadruple entry basis for the latter and the need for exhibiting moneyflows through a number of separate sector statements. To construct a national income statement or a gross national product statement it is necessary to divide the economy into two parts, productive enterprises on the one hand and households and quasi-households on the other. A consolidated income account is then prepared for productive enterprises. The several statements of payments and balances are not income statements and in general they are not consolidated but combined statements; transactions between transactors in the same sector are shown.<sup>6</sup> The total of moneyflow transactions in the eleven sector statements is well over three times the gross national product. Nonetheless there are various transactions revealed in the gross national product account that are not moneyflows. Some of these are accrual items like depreciation, but there are also imputed items, such as the value of food produced and consumed on the same farm.

These are the main differences between the two types of social accounting approach. The national income and product accounts present one perspective on our economy, a consolidated report on the operations of productive enterprises on an accrual and imputation basis; the statements of payments and balances give quite a different perspective, a set of com-

<sup>5</sup> A similar comment applies in connection with the item known as "Treasury currency" which is also a loan fund receivable by banks and U. S. monetary funds.

<sup>6</sup> The statement for banks and U. S. monetary funds and the statement for the rest of the world are consolidated statements.

bined sector statements of moneyflows and loanfunds. Both perspectives are essential for a proper understanding of our economy. Further we clearly need to tie the two perspectives together, but I cannot tell how that is done this afternoon. I can only say that the contrast I have drawn between the two perspectives makes that job sound a lot tougher than it really is, and that to tie together the information in the national income and products accounts and what we know about the financial structure of our economy—about loan funds—has been a major objective of the study.

I think you will agree that the social accounting approaches to the study of

economics use a number of accounting concepts and a number of accounting procedures extensively. I hope enough has been said by Hagen, Friend and me to convince you that social accounting has already produced a good many findings that are very important for public policy and that it is likely to produce a great many more.

It seems fair to say that accountants have not contributed much to social accounting thus far. But their help is urgently needed. I, for one, hope that an important contribution from this association to social accounting will grow out of this session.

## TEACHERS AVAILABLE

**ACCOUNTING, TAXES:** Man, 37. B.S. in B.A., C.P.A., actively engaged in public practice 13 years, instructor and former acting head of C.B.A. Available for part-time teaching in Boston or within commuting distance. (M-301)

**ACCOUNTING, FINANCE, ECONOMICS:** Man, 35, married. Ph.D. course work and written examinations completed at New York University. Seven years' college teaching; four years' public accounting and business. Now assistant professor in well-known men's liberal arts college. Seek position in Eastern co-educational institution. (M-302)

**BASIC, COST AND ADVANCED ACCOUNTING AND AUDITING:** Man, 38, married. B.S.C. and M.A. Broad experience in college teaching and practical accounting. (M-303)

**ACCOUNTING, MANAGEMENT AND LAW:** Man, married. M.B.A., and LL.B. in June, 1949. Wide experience in college teaching of accounting. Wishes teaching position in Southwestern United States.

**ACCOUNTING, BUSINESS ADMINISTRATION, ECONOMICS:** Woman, Ph.D. Extensive teaching experience. Publications. Now employed but desires appointment on West Coast. Available September, 1949. (M-305)

**ACCOUNTING:** Man, 33, Married. M.B.A. Presently Head of Department of Business Administration in college of arts and sciences. Six years of college teaching experience. Also public and private accounting experience and auditing experience as Naval Officer. Available September, 1949. (M-306)

**ACCOUNTING:** Man, 26. Bentley School of Accounting and Finance and Northeastern University. Public Accounting experience. Desires position as instructor. (M-307)

Letters in reference to announcements published under key numbers should be sent to Clete Chizek, Sec'y-Treasurer, AMERICAN ACCOUNTING ASSOCIATION, School of Business, University of Chicago, Chicago 37, Ill., for forwarding to the persons concerned.

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# AUDITING STANDARDS AND PROCEDURES<sup>1</sup>

CARMAN G. BLOUGH

THE DISTINCTION between auditing standards and auditing procedures is one that has not been at all clear in the minds of many who have used the term. Unfortunately, some accountants have not even been aware that there is any distinction. However, this is not too surprising; it was not until February of 1941 that the word auditing "standards" became a recognized part of the accountant's language. At that time the short form of accountant's report or "certificate" recommended by the Committee on Auditing Procedure of the American Institute of Accountants was amended to include the sentence "Our examination was made in accordance with generally accepted auditing standards applicable in the circumstances and included all procedures which we considered necessary." This amendment to the wording of the report was made to meet the S.E.C.'s Amendment 3 to its Regulation S-X which, among other things, required the auditor to state "whether the audit was made in accordance with generally accepted auditing standards applicable in the circumstances" and "whether the audit made omitted any procedure deemed necessary by the accountant under the circumstances of the particular case."

The accounting profession has had auditing standards for many years. They have long been inherent in the writings of authorities on the subject and basic in the practice of public accounting. Yet, at the time the S.E.C. required accountants to say "whether the audit was made in accordance with generally accepted auditing

standards applicable in the circumstances," and when the recommended short form of reports contained a declaration by the auditor that the "examination was made in accordance with generally accepted auditing standards applicable in the circumstances," no one could state what generally accepted auditing standards are.

Much floundering ensued on the part of those who sought to establish a meaning for the term "auditing standards" and to reach a conclusion as to what "generally accepted auditing standards" really are. No formalized statement had ever been issued defining the term, either authoritatively or unauthoritatively. Everyone had his own definition as to what he meant by the term when he used it in a report. There were generally accepted auditing standards but they had never been codified so that one could check his own conception of what they were. Many accountants thought in terms of procedures; standard procedures perhaps, but certainly not standards. Others thought in terms so vague and general that their views were not very useful.

It was inevitable that the committee which recommended the inclusion of this expression in the auditor's report should be preseed to give its own interpretation of the meaning. As a result, after a great deal of work, numerous discussions by members of the committee with accountants in all kinds of practice in all parts of the country, and redraft after redraft of a proposed statement by the subcommittee, the committee finally issued in the fall of 1947 its "Tentative Statement on Auditing Standards." The committee's views as to the meaning of the term "generally ac-

<sup>1</sup> This paper was presented at the annual meeting of the American Accounting Association in Memphis in September, 1948.

cepted auditing standards" seem to have met with general acceptance. The S.E.C. appears to have recognized the statement as an authoritative definition of the term, the council of the Institute has recommended that the membership adopt the committee's statement as to what these standards are,<sup>2</sup> and accountants, generally, seem to be relieved to find that they need no longer speculate as to what the term means.

Broadly speaking, these standards are of two kinds: those concerned with the personal attributes of the auditor and those related to the conduct of the field work and reporting. The first requires that auditing procedures be applied "with professional competence by properly trained persons." They concern the auditor's personal qualities. The second are related to "the underlying principles of auditing which control the nature and extent of the evidence to be obtained by means of auditing procedures." They relate to the standards controlling the performance of an audit examination.<sup>3</sup>

For the sake of convenience, the discussion of these generally accepted standards may be divided into three parts:

- General or Personal Standards
- Standards of Field Work
- Standards of Reporting

#### GENERAL OR PERSONAL STANDARDS

The general standards relate to the auditor's personal qualifications and the over-all quality of his work as distinct from the other standards related specifically to his field work and report. They are the standards necessary to attain the standards in the other two groups. The committee summarized them as follows:

- "1. The examination is to be performed by a

<sup>2</sup> This statement was adopted at the annual meeting of the Institute in September, 1948.

<sup>3</sup> See "Tentative Statement of Auditing Standards," p. 10.

person or persons having adequate technical training and proficiency as an auditor.

- "2. In all matters relating to the assignment an independence in mental attitude is to be maintained by the auditor or auditors.

- "3. Due professional care is to be exercised in the performance of the examination and the preparation of the report."

The accountant holds himself out as one who is proficient in accounting and auditing. In addition, he asserts that those who work for him have the necessary amount of training and ability to do the jobs assigned to them and that they are properly supervised. Questions involving judgment are settled by those with adequate experience to reach a reasonable conclusion.

In this connection, it should be remembered that the examination is not necessarily a process of verifying individual transactions, nor is it generally an independent determination of the amounts shown on the financial statements. To illustrate, the practice of doing much of the detailed audit work on certain items at an interim date is now quite common; the work with respect to such items at the balance sheet date consisting principally of a general review of the transactions during the intervening period and a relatively limited substantiation of the balances at the end of the period.

Further, it should not be expected that the auditor's judgment will be infallible. It is incumbent upon him to exercise his judgment in the light of all the facts reasonably available. His judgment must be an informed one, expressed as a qualified professional man, but this does not mean that, if future events prove his conclusions to be wrong, he has necessarily failed to observe the standards of his profession.

It is hardly necessary to repeat to this group that the auditor is in no sense a valuer or appraiser of goods or property or an expert in materials and commodities, although as a part of his work he may be concerned with, and pass upon the reason-

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ableness of, adjustments to, or the disclosure of, values as determined by others (e.g., market values). When the accountant undertakes to make valuations, however, he steps out of the role of an auditor.

Perhaps the most important single attribute of the certified public accountant is his independence. This characteristic of the public accountant has been recognized as paramount from the earliest days of audit work. The need for independence was recognized even before the need for technical competence. Independence is a very intangible quality whose essentials are unbiased judgment, objective consideration of the facts and judicial impartiality in reaching conclusions and reporting them.

To guard against a presumption of loss of independence, the profession has set forth in its rules of professional conduct various signs which indicate lack of independence. It is contrary to the standards of the profession to approve false or misleading statements or to issue a report without an informed basis for the assertions made in it.

An independent accountant cannot offer his services on a contingent fee basis. He cannot be considered independent if he has a substantial financial interest in his client's business. He cannot pay commissions or brokerage with respect to professional services to the laity. He cannot engage in occupations incompatible with public accounting.

The question of independence was well summed up by the Institute's executive committee in its tentative statement on the subject last year when it said:

"Rules of conduct can only deal with objective standards and cannot assure independence. Independence is an attitude of mind, much deeper than the surface display of visible standards. These standards may change or become more exacting but the quality itself remains unchanged. Independence, both historically and philosophically, is the foundation of the public accounting

profession and upon its maintenance depends the profession's strength and its stature."<sup>4</sup>

The accountant has the weighty responsibility of seeing to it that the examination is made with the care expected of a professional man. The reader of his report has the right to believe that he has performed his audit in good faith and with integrity; that he has the degree of skill commonly possessed by others in the profession and that he has applied that skill to the best of his ability. Due professional care requires of the accountant not only that he employ the proper procedures but that they be applied and coordinated properly.

#### STANDARDS OF FIELD WORK

In summarizing the standards applicable to field work the committee stated:

- "1. The work is to be adequately planned and assistants, if any, are to be properly supervised.
- "2. There is to be a proper study and evaluation of the existing internal control as a basis for reliance thereon and for the determination of the resultant extent of the tests to which auditing procedures are to be restricted.
- "3. Sufficient competent evidential matter is to be obtained through inspection, observation, inquiries and confirmations to afford a reasonable basis for an opinion regarding the financial statements under examination."

It should be noted that nowhere does this summary specify that any particular procedure should be employed in a particular case; nor does it specify the time, manner or extent to which procedures should be employed. I point this out to emphasize the difference between auditing standards and auditing procedures. There has been a good deal of confusion in this respect because, while they are closely related, auditing procedures are the steps

<sup>4</sup> *Journal of Accountancy*, July, 1947, page 53.

taken by the accountant to satisfy himself. Auditing standards, on the other hand, relate to how well he does what he does—to the measures of the quality of his performance. Thus generally accepted auditing standards would require the accountant to obtain enough competent evidence to afford a reasonable basis for an opinion as to the reliability of the figures set forth for material amounts of assets. He may, however, have available a choice of procedures by which he could meet this standard with respect to each asset.

Generally accepted auditing standards require stronger grounds to sustain an informed opinion with respect to items which are more important or in which the possibilities of error are greater. Thus, in the series of Case Studies in Auditing Procedure, we find that only three percent of the total audit time was devoted to inventories in the case of a newspaper publisher, while in the case of a loading and hauling equipment manufacturer the auditors devoted almost fifty percent of the total time to inventories.

Similarly, the evidence must be more conclusive where the relative risk of error is greater than where the risk is not so significant. As a rule, cash is more vulnerable than inventories. Titles to properties may be as valuable as securities, but they are not negotiable.

It may also be necessary to place emphasis upon different aspects of the audit of a specific item due to other factors than misappropriations. For instance, in good years there may be a greater tendency than in bad years to charge against income costs which would otherwise be capitalized.

Probably the greatest single consideration in appraising the degree of risk of error is the effectiveness of the system of internal control. The primary purpose of internal control is to minimize such risks. The more effective the internal control the less likelihood there is of errors or irregu-

larities and the less extensive the detailed procedures need be. A case in point was brought out in the case study dealing with a corn processing company. Due to the weakness of the internal control, the auditors extended their payroll work beyond that which would normally have been required if the internal control was satisfactory.

One of the first means by which an accountant complies with the standards of field work is through the proper planning of his audit. This involves the timing and the orderliness of the application of the procedures. The timeliness aspect of the problem concerns the proper synchronization of the procedures. The simultaneous counting of cash and securities or the checking of the cut-off of shipments at the time of the inventory count are illustrative of the importance of proper timing in the conduct of an examination.

The need for orderliness in the application of auditing procedures is well exemplified in considering the observation or testing of the physical inventory. Unless the procedures for conducting the count and the auditor's program for making his observations or test counts are carefully worked out in advance, the results are likely to be pretty unsatisfactory. Similarly, unless the over-all audit program is carefully thought out the proper coordination between preliminary or interim work and the final work will not be achieved.

As already indicated, the determination of what tests should be employed, and at what time and how extensively, is based very largely upon the effectiveness of the system of internal control. It is, therefore, necessary to make a study and to evaluate the effectiveness of the internal control as a basis for deciding how much reliance can be placed upon it. If the system is good, the accountant would generally expect to limit the extent of his tests. If on the other hand the internal control is poor, or is found not to be operating as planned, a

corresponding extension of the tests will be necessary.

Adequate evaluation of a system of internal control requires a knowledge of the methods in use and an understanding of their function and limitations. It also requires a reasonable degree of assurance that the procedures are actually in use and are operating as planned. These two requirements are to some extent conflicting so far as the planning of an examination is concerned because it is difficult to evaluate the effectiveness of a system except by the findings resulting from the application of auditing procedures. However, the important point to bear in mind is that the audit program should be based upon the best information available as to the effectiveness of the internal control and that where the application of the auditing procedures planned reveals differences in its effectiveness from that shown by the preliminary investigation, the program should be expanded or restricted as the findings dictate.

Probably no phase of field work is more difficult, particularly to those who are just entering the profession, than that of determining what constitutes satisfactory evidence. This arises primarily from the fact that the satisfactoriness of evidence depends upon the circumstances of each particular case and must be determined largely as the experience of the auditor indicates.

Accounting evidence may be divided into two categories. The first would include that available within the client's organization; internal evidence such as the books of account, checks, invoices, contracts, minutes, etc. The second would include that which the auditor derives himself: external evidence such as confirmations, contact with physical assets, etc.

The examination of internal evidence is usually accomplished through tests to determine whether reliance may be placed upon the client's representations as ex-

pressed in the accounts and financial statements. "The appropriate degree of testing will be that which may reasonably be relied upon to bring to light errors in about the same proportion as would exist in the whole of the record being tested."<sup>5</sup>

There are a number of phases of the examination where the accumulation of external evidence is of particular significance. These would include cash, receivables, inventories and securities. Certain procedures with respect to these items are well established. For example, substantiation of cash will almost always require direct confirmation from the banks as to the amounts and availability of balances on deposit. However, the evidence thus obtained would not be satisfactory if the accountant was in doubt as to whether such a bank existed. Direct confirmation of balances due from debtors is usually the most satisfactory method of securing external evidence of amounts due the client. However, the auditor would hardly meet generally accepted auditing standards merely by sending out the negative form of requests for confirmation when he had reason to believe the debtor would not reply even though the balance shown were incorrect.

Where items are material, actual inspection of certain assets is frequently necessary to assure that the examination comes up to the proper standards. Thus, where it is practicable and reasonable, observation of the inventory count is considered a generally accepted auditing procedure. Likewise, it is generally advisable to examine securities and similarly negotiable paper.

I have emphasized a number of items of evidence which the auditor would generally seek to obtain in forming his opinion on a set of financial statements. It should not be inferred, however, that these are the only data that may be necessary or

<sup>5</sup> Tentative Statement of Auditing Standards, page 30.



that failure to obtain this particular evidence would necessarily result in an audit of less than acceptable standards. In some cases, equally good, or possibly better, evidence can be secured by carefully considered alternative procedures. While the procedures I mentioned are usually considered the more satisfactory for most cases, the accumulation of evidence of substantially the same conclusiveness by other means would seem to meet the same standards.

In addition to confirmations and inspections, the evidence acquired by specific inquiries directed to individuals in the client's organization is an example of external evidence. It should be noted, however, that such evidence should complement, not substitute for, a proper examination. It is incumbent upon the accountant to ascertain what means are available to fully satisfy himself as to his client's representations. Specific inquiries are one of the means by which he complies with this.

#### STANDARDS OF REPORTING

The ultimate objective of an examination of financial statements by an independent public accountant is usually the expression of an opinion through the medium of a report or certificate. The substance of the standards of reporting might be said to be intended to assure the stating of "the truth, the whole truth and nothing but the truth," both in the accountant's report or certificate and in the financial statements. The committee summarized these standards as follows:

- "1. The report shall state whether the financial statements are presented in accordance with generally accepted principles of accounting.
- "2. The report shall state whether such principles have been consistently observed in the current period in relation to the preceding period.
- "3. Informative disclosures in the financial statements are to be regarded as reasona-

bly adequate unless otherwise stated in the report."

Although the objective of an audit is usually the expression of an unqualified opinion, the accountant must be prepared to refuse such an opinion if the circumstances warrant. In some cases, it may be appropriate to express a properly qualified opinion. In other cases, he should refuse to express any opinion. The accountant should not express the opinion that financial statements present fairly the position of a company or the results of its operations when his examination has not afforded him a basis for an informed opinion or when his exceptions with respect to the financial statements are of such extent that they negative the opinion.<sup>6</sup> It is up to the accountant, however, to decide whether or not he can give an opinion.

When the accountant feels that the scope of his examination has been less than he considers necessary to express an opinion on the statements taken as a whole or his qualifications are such as to negative the opinion, he should, if he makes a report, state that he is unable to express an opinion and should indicate why.<sup>7</sup> In some cases where it is not possible to give an over-all opinion it may be possible to give a limited opinion, restricted to those parts of the financial statements upon which the accountant has satisfied himself. When this is done, however, he must make it clear that the opinion is not intended to apply to the statements taken as a whole.

To state whether the financial statements are presented in accordance with generally accepted accounting principles, the accountant must combine a knowledge of what those principles are with a careful exercise of his judgment of the facts of

<sup>6</sup>See *Statements on Auditing Procedure No. 1*, page 5.

<sup>7</sup>See *Statements on Auditing Procedure No. 23*, page 161.

each case. The fact that an accounting procedure employed by a certain company is not in widespread use may not mean that it is not generally accepted. For example, the employment of the "declining balance" method of depreciation does not occur very frequently in the experience of most auditors. This method is, however, generally accepted and may frequently result in a better presentation of financial information than the "straight-line" method.

It should also be remembered that the accountant's opinion as to the application of generally accepted accounting principles refers to broad principles rather than to specific methods used in a particular set of operating conditions. For example, two companies might use different methods in determining the amount of a reserve for bad debts. As long as they both sought to make a satisfactory provision for the anticipated losses from the receivables, however, they would be complying with the broad principle that such losses should be anticipated.

In considering the application of accounting principles, the accountant must also weigh the factor of materiality. He would not take an exception, for example, to the practice of writing off to income in the year incurred small amounts of costs which, if they were material, would be capitalized.

Similarly, the accountant should consider materiality and the particular operating conditions in exercising his judgment as to whether the principles have been applied consistently. Standards requiring the accountant to take an exception as to consistency when it relates to an insignificant item would do little good and would probably just confuse the reader. By the same token, changes in the precise application of broad accounting principles, due to changes in operating conditions would not require an exception as to con-

sistency unless, of course, failure to note the change might lead to misunderstanding by the reader of the report.

The standard that disclosures shall be regarded as reasonably adequate unless otherwise stated in the report concerns disclosure both in the accountant's report and in the financial statements. I have just mentioned disclosure with respect to the consistent application of accounting principles and making clear what the accountant's representations as to an opinion are. Fairness of presentation also requires consideration of the adequacy of disclosure of material matters on the financial statements. If matters of importance are not disclosed in the financial statements, they should be disclosed in the accountant's report or certificate. As a general rule, however, the standard of "disclosure should not be considered to require the publicizing of certain kinds of information that would be detrimental to the company or its stockholders."<sup>8</sup>

#### CONCLUSION

In talking with you today, I have tried to outline the meaning of auditing standards as they are viewed by the profession and to distinguish them from auditing procedures. Although any profession must have standards if it is to maintain its professional standing, they are, in a sense, a state of mind. It is, therefore, extremely difficult to define them. They are, nevertheless, the foundation upon which the accounting profession's usefulness rests. Important as instruction in accounting and auditing principles are, the thorough indoctrination of prospective public accountants with the auditing standards accepted by the profession should rank high among the objectives of every school which seeks to train for success in this field.

<sup>8</sup> Tentative Statement of Auditing Standards, page 42.

# TAX SETTLEMENT BOARD BILL

JOHN L. CAREY

THE TAX SETTLEMENT BOARD, proposed by Representative Wilbur V. Mills of Arkansas, a high ranking member of the House Ways and Means Committee, would fill the place which was originally supposed to be occupied by the old Board of Tax Appeals.

Mr. Mills' bill (HR 2983) would also help to clarify and secure the position of certified public accountants in tax practice through its provision that anyone admitted to practice before the Treasury Department would automatically be admitted to practice before the Tax Settlement Board.

As first planned in 1924, the Board of Tax Appeals was to have been an informal agency which would settle tax controversies with a minimum of delay and expense to the taxpayer. However, the bill creating the Board of Tax Appeals was amended before passage to require the use of formal rules of evidence in the Board's proceedings. With the burden of proof on taxpayers who appealed their cases to the Board, this meant that such an appeal would almost certainly be costly and time-consuming. As the years went on, the Board of Tax Appeals became more and more like a court of law, and its name was changed to United States Tax Court in 1942.

A renewed effort is being made to make the Tax Court a court of record, and it is quite possible that the court may eventually be regularly incorporated into the judiciary system. Something like the Tax Settlement Board proposed in the Mills Bill is therefore needed to provide an informal and impartial appeals agency out-

side the Bureau of Internal Revenue to handle tax controversies which cannot be settled with Bureau representatives.

Sponsors of the measure believe that the existence of such a Tax Settlement Board would in itself exert a salutary influence on the settlement of tax cases with the Bureau since tax-payers would no longer face the alternative of accepting the decision of the Commissioner of Internal Revenue or entering into a lawsuit which might prove as expensive as the amount of tax in dispute.

The bill would create a twenty-five-man board, whose members could sit individually in various parts of the country. It is specifically prescribed that hearings before the board or its members shall not be conducted in accordance with rules of evidence and, further, that the decisions of the board would not constitute evidence in cases which were later taken to the courts. These provisions are designed to prevent the Tax Settlement Board from moving in the direction of becoming a court, as the Board of Tax Appeals did.

Either the taxpayer or the Commissioner of Internal Revenue would have the right of appeal *de novo* to the United States Tax Court or the District Courts if dissatisfied with a finding of the Tax Settlement Board, but it is not anticipated that there would be many such appeals, except in cases involving complex legal questions.

No final action on the bill is expected during the first session of the 81st Congress but backers of the bill hope to obtain action on it soon after the second session convenes next January.

# THE ENGLISH UNIVERSITIES AND THE ACCOUNTING PROFESSION

F. SEWELL BRAY

IN ENGLAND, as in the United States, the accountancy profession has been quietly and steadily advancing in status and gaining in responsibility. The qualities which society expects from the members of such a developing profession puts upon that profession the obligation of attracting into its ranks men and women of the highest character and intellectual ability. It has always been recognised that a regard for the liberal education and intellectual discipline tendered by a university conferred advantages upon those members of the profession who either had sought it as opportunity offered, or had been antecedently brought to it under the guidance of a discerning tutelage.

But now the reconciliation has been carried one stage further, and the accountancy profession in England has sanctioned a scheme, prepared by a joint committee representing the universities and the profession, whereby it is possible to obtain within a period of five and three quarter years both a university degree and a professional qualification. Thus, it has achieved a provision for the university education of prospective members of the accountancy profession. Although the scheme is voluntary it may very well be said that professional education has now been secured within the boundaries of those institutions concerned with the penetration and depth which come from the pursuit of a liberal education. This marks the beginning of a great step forward which should do much to avoid the possible dangers of a mechanistic application of technique at the expense of a vital comprehension of underlying principles. In the words of the explanatory memorandum published in 1946

"the course of study proposed, while affording the universities the medium for giving the student a liberal education and an intellectual discipline, is also intended to enable the student to understand the principles underlying his profession and to derive greater profit from his actual experience in the office."

Such an understanding should help to remove much of the drudgery associated with apprenticeship.

The technical details of the scheme require the student to attend a university or university college for a period of two and three quarter years during which time the university examinations will be taken.<sup>1</sup> Practical training will normally take up the remaining period of three years.

"This period of practical training may be taken at any time during the five and three quarter years, but it will normally be desirable that students should, before entering the university, spend a few months in the Accountancy office to which they are attached. It is also considered desirable that they should keep contact with such offices during their period of university training, that they should work in such offices for at least four weeks during each Summer vacation and that they should return to such offices for a year or more before taking their Professional Final Examination. Candidates who have taken a University Degree approved under the Scheme will be exempted from the Intermediate Examination of the Professional Bodies, but will be required to take the Final Examination, in accordance with the Regulations of the respective Professional Bodies."<sup>2</sup>

The general conception of the academic course of study is interesting. The founda-

<sup>1</sup> It should be explained that although the Universities of Oxford and Cambridge are represented on the Joint Committee they have not adopted the scheme which is the subject of this article. Accounting Research, however, is being conducted at Cambridge in the Department of Applied Economics, with special reference to Social Accounting.

<sup>2</sup> Explanatory Memorandum, 1946, pp. 3 and 4.

tion subject relied upon as an intellectual discipline is economics, and in point of fact the course is built round this subject. It is intended that economics shall be studied during nine terms, and that it shall cover economic statistics. There is a suggestion that in this context statistics is related to business problems, and there is some hesitancy or disinclination to face the precision of symbolism, presumably on the grounds that this savours too much of the province of the mathematical specialist. We may hope that in due time econometrics will achieve its rightful status in this particular course of study. Accounting, including cost accounting and auditing are now regarded as important from the economic standpoint, and there is growing recognition of their consequence as academic subjects. As with economics it is expected that this group of studies shall extend over a period of nine terms. It is also considered that law should be studied for a similar period, although it is not treated with quite the same weight as is ascribed to the subjects of economics and accounting. The fundamental significance of principles is stressed, with special reference to the law of contract. Thereafter, this introduction is expanded to a consideration of those types of contract most frequently encountered in the day to day business of affairs, e.g. sale of goods, agency, partnership, employment, negotiable instruments and the like, with a later development of the subject to include companies, insolvency, receivership, executorship and taxation.

A working knowledge of at least one modern foreign language is felt to be desirable, and as most students will have made an acquaintance with it at school it is considered that the minimum study requirement for this subject can be left to cover a period of three terms, or one session. Some universities do not now require a foreign language and they accept in place

of it some other recognised degree subject. Emphasis is placed upon the increasing importance of the accountancy profession in public affairs, a maturing development which has led to the institution of a somewhat specialised academic subject for accounting students which passes under the title of *The Study of Government*. Thus, it is expected that the student should acquire some knowledge of the working of central and local government institutions, both legislative and administrative, and he is required to devote at least three terms to this subject.

A typical course of the order we have been considering is that provided by the University of London at the London School of Economics. It is divided into two parts, intermediate and final. The subjects included in the former are denoted as (1) economics, analytical and descriptive, (2) elements of English law, (3) an approved modern foreign language, (4) English economic history and (5) elementary statistical method and accounting. The final subjects comprise (1) economics, including principles of economics, applied economics and economic history of the Great Powers and the British Empire, (2) foreign language, (3) elements of commercial law, and (4) an Honours Group made up of (a) accounting, including cost accounting and auditing, (b) business administration, (c) law of commercial associations and law of income tax for accountants, and (d) British central and local government. In England this University scheme is plainly meeting a need, for the numbers taking the course are much higher than was originally expected.

So much for the academic training of prospective accountants, but quite plainly it is hoped that there will be more to it than this. Ideas and research are essential to the progressive development of any profession, and we are at least entitled to expect that research will constitute a marked activity



of the universities. Thus, it is hoped that in course of time the universities will provide additional courses for graduates and that they will gradually build up facilities for accounting research. Most accountants will be prepared to concede that never before has accountancy been confronted with the possibility of such dynamic changes as it appears to be in for now. Accounting concepts of business income are being seriously called into question in the face of variable price levels. There is a noticeable disparity between economic and accounting views of income and capital measurements, which is serving to throw into relief the significant borderland between economics and accountancy. The application of double-entry accounting forms to the difficult task of making quantitative calculations of the relative strengths of the different economic forces operative in nations is slowly making headway and is bidding fair to become one of the essential pieces of machinery in the hands of central governments concerned to promote policies of general economic welfare. Social accounting has come to stay, and it is well that accountants should be forced to reconsider their technique in terms of social as well as institutional aggregates. Thus, the problems are all there for the postgraduate schools to meditate upon, and to offer their contributions to such solutions as will further knowledge and advance the status of the profession.

And this seems the place to comment upon the need which for some time past has been felt in some circles for a periodical given up to articles on advanced prospects of accounting and those subjects which are intimately associated with it. It is therefore hoped to fill the gap by the publication in Great Britain of a new periodical of standing to be called *Accounting Research*. This journal will be sponsored by the Research Committee of the Society of Incorporated Accountants,

and its editorial policy will be directed to keeping close contacts with all branches of the profession and with the universities in all countries. It will be published by the Cambridge University Press twice yearly and the first issue should be ready towards the end of October, 1948.

It will be the policy of *Accounting Research* to publish articles which make a real contribution to the theoretical and practical development of the accounting art, so that the intention is to provide a scholarly medium for making known advanced work undertaken by accountants whether they are engaged in professional practice, as executive officers in industry, or as teachers in universities. Moreover, it is also intended that special regard shall be had to the publication of postgraduate research studies. Thus, those subjects which because of the length at which they need to be treated, or because of the advanced standard of the work they demand cannot be included in the weekly and monthly professional journals will find their natural place in *Accounting Research*.

If accounting is to reveal itself as having an honourable part in the play of learning and knowledge, then it must allow and expect changing points of view. So too it must encourage the publication of clear and well meditated accounts of new ideas, in order that everyone concerned with the advancement of the profession may understand what those ideas are about, as a precursor to tests of their merits. Just now the accountancy profession is meeting several new points of view—a healthy sign which bodes well for the development of its art—and in Great Britain, at least, the need has been felt for a medium in which there can be adequate publication of new ideas and methods at a deeper level than is ordinarily possible in the usual periodicals circulating within the profession. It is contemplated that *Accounting Research* will meet this need.

And lastly we should wish to make a particular point of the declared intention of the editors of *Accounting Research* to draw from outside, as well as from inside, the United Kingdom for its contributors, and it is hoped that not only accountants, but economists and statisticians will

evinced an interest in this new publication. Thus we may hope that it will serve a purpose in the same scheme of things as that expected from the introduction of the universities into the field of professional education and research.

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# COMMENTS ON THIRD STATEMENT OF ACCOUNTING CONCEPTS AND STANDARDS

DANIEL BORTH

THE THIRD or 1948 statement of accounting principles underlying corporate financial statements is a worthy successor to previous editions by the American Accounting Association. Written in concise and generally clear style, it has restated the principal concepts of accounting in the light of the economic developments of the past seven years.

Especially commendable are the emphatic and clear pronouncements on those post-war accounting practices which have tended to distort the significance of income for the period. These statements of concepts and standards provide:

1. Reserves may not be created by charges to revenue except in recognition of expense.
2. The income statement for a period should provide an exhibit of *all* revenue and expense (including losses) given accounting recognition during the period.
3. Reserves created from *retained income* should be returned undiminished to *retained income* when the need for such reserves has passed.
4. The balance sheet should contain no special section for reserves.
5. A permanent distinction should be maintained between paid-in capital and *retained income*.

Perhaps no committee could write a statement of accounting principles without some differences of opinion. The origins, uses and implications of accounting data are much too broad to expect unanimity of opinion.

## GENERAL SUGGESTIONS

Even though the committee reiterated the preliminary considerations of the 1941

statement with complete approval, one wonders if the committee as a whole was so sure that the "basic accounting concepts and standards remain relatively undisturbed during periods of economic change." In a footnote to page 3, the committee agrees that a "marked permanent change in price levels might impair the usefulness of statements reporting asset costs," but concludes that the "price changes of recent years do not afford sufficient justification for a departure from cost."

One wonders what the economist might characterize as a "marked" change in price levels, even if he were to admit that any such phenomenon as a "permanent" change could take place in a free enterprise economy. It appears that the essentials of a "marked" change in prices have taken place when one considers that the April 8, 1949 (BLS) index of industrial raw material wholesale prices stood at 240.2, the general index of wholesale prices at 249.2, both expressed on an August 1939 base of 100.<sup>1</sup> Whether a permanent change has taken place, there are few criteria by which one might confidently judge.

Though reflection of the cost basis in the accounts should not be abandoned, the possibilities of the concurrent showing of enterprise-assets on other needed and acceptable bases in the accounts should be carefully considered. (The committee would show values other than costs, if supported by substantial objective evidence, parenthetically, by footnote, or in a supple-

<sup>1</sup> The April 5, 1949 (BLS) index of wholesale prices of building materials stood at 197.2, the general wholesale price index, 158.0, both expressed on 1926 base of 100. On December 31, 1931 base of 100, Moody's index of spot commodity prices as of April 5, 1949 was reported as 359.6.

mentary schedule.) The field of accounting sorely needs the development of acceptable techniques founded on concepts and standards geared to new levels of prices, permanent or not.

In reaffirming the 1941 preliminary considerations, the committee requoted a footnote to those considerations which reads *in part* as follows: "... accounting concepts are embodied in a framework of underlying conditions and assumptions, such as ... (e) the preparation, from underlying data, of statements embodying the point of view of stockholders." The inclusion of the phrase "embodying the point of view of stockholders" is somewhat disturbing. It can be misunderstood, especially in these times when many are tempted to conclude that accounting statements are slanted to the view and for the benefit of particular interests. The substitution of the phrase "from an objective, independent point of view to serve mainly the needs of stockholders" would appear more appropriate.

Accounting serves the fields of commerce, finance, economics, law and government, among others. Therefore individuals from those fields have or should have an interest in such publications as "the third statement" of concepts and standards of accounting.

If attention is given to the possible needs of these broad allied fields for accounting data, possible difficulties in understanding terms and concepts, as promulgated by the committee, are detected. Even if this statement is directed primarily to an "accounting audience," more attention might have been given to the definition of key terminology and to the expression of the reasons underlying the formulation of certain concepts and standards.

#### SUGGESTIONS FOR TERMINOLOGY

Examples of terminology which are subject to some question on the above grounds are:

1. Such terms as *fair market value* and *established selling price* are subject to misinterpretation since they bear close resemblance to terms having general usage in related fields. *Fair market value* may be confused with *fair value*. *Established selling price* is easily associated with prices established under retail price maintenance agreements under fair trade laws. The word *fair* has an acceptable substitute in the word *reasonable*; while *the sales price* appears to be less confusing than *the established selling price*. In any case such key terms should be defined.

2. Since the committee seemed to prefer the term *expense* to the terms *expired costs* or *assigned costs*, the choice of the term *operating costs* (rather than *operating expenses*) as a subdivision of expense is difficult to understand.

3. The term *operating* would bear definition. At one point the reader gains the impression that all accounting deductions for financial events of the current period, other than adjustments of stockholders' interests, which have a traceable association with the production of revenue are *operating costs*. At another point the committee points out that "operations and other events" give exchange value to assets of limited-period significance. At still another the committee emphasizes that the income statement of the current period should show, in addition to other data, "any items of revenue and expense not associated with the operations of the current period." This latter statement would seem to acknowledge the existence of non-operating revenues, a concept which makes the interpretation of *operating costs* even more difficult.

4. Especially to purists in accounting terminology, such phrases as *current expenditures of cash* and *assets disbursed* are not desirable choices of terms.

5. Liabilities are defined as *claims of creditors*, but no attempt was made to define either *claim* or *creditor*, both of which

have legal connotations. Certainly *liabilities* to the accountant is a much broader term than the legalistic conception of *claims of creditors*.

#### SUGGESTIONS FOR EXPLANATIONS

Examples of concepts and standards requiring further explanations are:

1. With reference to the handling of the difference between the "amount payable when a liability is settled and the amount of the cash or its equivalent when the liability is incurred," the committee suggests *accumulation* or systematic amortization. The circumstances which led to the insertion of the word *accumulated* should have been explained. It is also noted that there are no suggestions for the subsequent disposition of the accumulated amount.

2. In outlining the disposition of the cost of assets "with use or exchange value for a limited period," the committee advises that the "cost must be reasonably or systematically assigned to expense or transferred to other assets." Elsewhere the statement makes no provision for the transfer of the cost of "intangible assets which have limited-term significance" to other assets. The reasoning underlying the formulation of these "standards" would have been helpful in judging the merits of the stated concepts.

3. The committee defines *retained income* as the "amount of income since the formation or a reorganization of the enterprise less the amount distributed to stockholders." The committee did not indicate whether or not quasi-reorganizations are included within its concept of the term *reorganizations*.

#### FURTHER NEED FOR CLARIFICATION

Other examples of points needing clarification are:

1. In stating the exclusions in measuring corporate income, the committee fails to mention donations or gifts. In defining revenue, such exclusions are noted.

2. In defining *liabilities* as *claims of creditors*, no provision seems to have been made for deferred revenue and credits. There appears to be a gap between *stockholders' interests* on one hand and *liabilities* (defined as claims of creditors) on the other.

3. In setting the standards for determining whether the residual cost of inventory should be carried forward in the balance sheet for assignment to future periods, the committee employed an exception clause which embraces almost all known causes of price fluctuations and variations. This clause is so all-inclusive that it serves little useful purpose. It would seem that the concept could be stated as follows:

"The residual cost should be carried forward in the balance sheet for assignment to future periods except when the estimated amount of sales proceeds, less direct expense of completion and disposal, is less than the residual cost." Further, the criterion for choosing between residual cost and estimated sales proceeds (less direct expense of completion and disposal) for assignment to future periods should be stated in terms of the relative stability of the estimate of sales proceeds. The specific causes of the price changes are not too significant in that determination, especially when one considers the number of causes listed by the committee, including the catch-all term, *other cause*.

#### PROGRAM FOR FUTURE ACTION

The above analysis would seem to suggest that an abbreviated statement of accounting concepts and standards serves very limited and specialized needs. Certainly as a teaching device, at the junior-senior levels, it has its definite shortcomings. Further, it is suspected that the greater good which will come from a statement of accounting principles will *not* be its influence upon the practicing accountant of today. It will have *much greater* influence upon the thinking of the accountant



of tomorrow, those being currently introduced to the underlying philosophy, aims, and uses of accounting. Certainly as a publication for distribution to the many non-accounting users of accounting data, the abbreviated type of statement of principles has many deficiencies.

The American Accounting Association should plan *now* for the preparation of a fourth statement of accounting principles to be distributed in the reasonably distant future. This project should be more comprehensive than those attempted in the past. The details of this envisioned program might include:

1. A statement (or restatement) which would follow the pattern formulated by the American Law Institute in preparing its Restatement of the Law of Contracts, Torts, Agency, Property, etc. This proposed statement would first state each fundamental principle in technical language. It would follow each principle by an elaboration stated in less technical words or in words of general usage. Following each principle would be definitions of those words and phrases determined to be *key* in an understanding of the principle. Then, there would be presented some brief hypothetical "cases" which are in conformance with the stated principle, followed by some brief hypothetical "cases" illustrating de-

viations from and violations of the principle.

2. This restatement of accounting principles would place the concepts and standards in their economic, financial and legal setting. In that manner those in fields related to accounting would gain a clearer conception of the relation of accounting concepts and standards to associated concepts and standards in their respective fields. (Certainly those who use accounting data and statements have a right to know of our assumptions and premises and the reasons underlying our adherence to them.)

3. Since such a project would be a long-term research job, various committees would be set up by the Executive Committee of the American Accounting Association, acting as a steering committee. In that latter function, the Executive Committee would lay out work-areas, designate committee chairmen, perhaps designate committee members, and review work progress.

4. Provisions would be made for a much broader coverage of the members of the American Accounting Association, and perhaps selected members of other accounting organizations, for suggestions and comments in all stages of the formulation of the restatement.



# CLASSIFIED OBJECTIVES

A. C. LITTLETON

THE RECENT ARTICLE by Gordon W. Stead<sup>1</sup> is an interesting analysis of accounting ideology accompanied by a preliminary charting of idea interrelations. At the top of the chart stands "Integrity." It is the author's intention to show how the successive aspects of doctrine (principles, canons, standards, rules) derive from this one "fundamental concept," it being his view that this dependency is "the direction of causation."

It will be no detraction from his constructive contribution to the development of the concept of an integrated body of accounting thought to try here for a supplementary pattern—one leaning toward a line of discussion he avoids when he chooses to show that rules of conduct derive from immutable principles.

In this supplementary pattern it will be the view that principles may have been slowly distilled out of actions. This view would help to express the idea that accounting rules having first been the fruits of tentative actions, grew in significance until they became guides to pre-determined actions. As these accounting actions grew increasingly diverse and complex, so did the attendant rules, customs, practices. And as this diversity falls under more and more critical consideration, it becomes increasingly advisable to decide whether there are elements of order, sequence, interrelation within the mass.

Accounting has been developed for the most part inductively out of particulars. After the particulars of experience have produced a mass of rules, the major problem of subject matter becomes one of organizing the accumulated doctrine (expressed in rules, procedures, etc.) into a

cohesive body of knowledge. Knowledge will be recognized as cohesive if it can be set into a clarifying order from which it will be plain that important relations can be chained downward (deductively) from a top concept, although the various aspects of doctrine may have originated in rules about particulars. This is to say that accounting thought can profitably be explored along both roads of induction and deduction.

A graphic pattern to help express the inductive approach could take the form of a pyramid standing on a broad base and sloping sharply to a peak representing the top objective of accountancy. The broader sections below the top and above the base would stand for antecedent objectives which, growing out of actions represented by the base, gradually build up to one focal objective capable of justifying all lower objectives and their related actions.

This pattern would attempt to deal with objectives of the art, not objectives of the artist, that is, with accountancy rather than accountants. Mr. Stead's view seems to focus on the latter. In putting "integrity" at the top he points (1) to integrity as the element that distinguishes the accountant from the bookkeeper, (2) to the umpire-function of the accountant and to his reporter function, (3) to the accountant's ethical duty to acquit himself with integrity. Obviously it is useful to consider the human side since accountancy, like a corporation, cannot operate without human aid. Yet, just as it is helpful to think of and deal with a corporation as if it had existence and capacity separate from its human adjuncts, so it seems likely to be helpful to think of accounting objectives separately from the people who developed that art through the long past and those who keep the instrumentality functioning

<sup>1</sup> "Towards a Synthesis of Accounting Doctrine," ACCOUNTING REVIEW, October, 1948.

today. This should prove helpful since accounting is useful because it is a way of thinking and of preparing to think; as such it becomes a vehicle for man's intentions. A man will more quickly learn to use a vehicle—put it under his will and control—if he first learns the characteristics built into it. Only thereafter does he understand the mechanism well enough to bend it most usefully to his needs.

In our pattern a broad foundation extends beyond the edges of the base of the pyramid proper. This represents the multitude of particulars within a business enterprise—actions, instances, documents, transactions involving properties, promises, rights, in a wide variety of kinds and amounts and intentions. These are the particulars of business activities. These are also the particulars which must be molded by the purposes and actions of accounting so that accountancy may become the primary information service of business.

Accounting is action, doing; accounting action works with the transaction mass that expresses in detail the breadth and depth of enterprise action. There are six areas of accounting action and the areas stand in a clearly perceivable sequence.

#### Areas of Accounting Action:

1. pricing business transactions
2. analyzing transactions into debits and credits
3. posting debits and credits into ledger accounts
4. making periodic adjusting and closing entries
5. preparing financial statements
6. auditing financial statements.

Since verbs are words of action it may be useful to try to express each of the above areas by a key verb (1) *homogenizing* (diverse events), (2) *converting* (events into entries), (3) *classifying* (entries into accounts), (4) *reclassifying* (account data into fiscal periods), (5) *reporting* (summarized periodic data), (6) *reviewing* (accounting data and processes).

Under modern conditions it may seem that "homogenizing" is not a part of accounting (or bookkeeping) action since transaction documents usually come to the accountant's hands already priced. The important thing however is not who performs this act but the fact that the action takes place; without it there would be no data to use account-wise. In foreign exchange this kind of initial action is obviously necessary as a conscious act of resolving different currencies into a single local money of account. In the early days of double entry records, trade took place in so many localities, each with its own currency, that "homogenizing" was a necessary preliminary step to any other accounting treatment. The other verbs seem self-explanatory.

These "areas of accounting action" may be considered as the large bottom section in the pyramid figure. But it should not be overlooked that within these areas the building blocks are set in a discernible sequence. Is the sequence inherent and significant, or accidental and artificial? The former idea seems more plausible because in the sequence can be seen an orderly progressing of actions toward some still unstated objective or purpose. Can accounting processes (actions reaching toward goals) be related to accounting objectives (intentions motivating actions)? Such a relationship should be discoverable; accounting actions do not just happen. Actions are purposeful; they are nothing if they are so random as to be futile. Actions become intelligible primarily through their objectives.

The next higher section in our pyramid then will represent the objectives justifying the actions represented in the section below. The items here are tied to the list above by using the same six numbers.

#### Intermediate Objectives

1. to reduce objects and events to price data
2. to transform price data into account data

3. to compress the mass of account data by using quasi-statistical means
4. to reassign, as between time periods, the data previously classified only as to qualitative characteristics
5. to organize periodic data into interpretative summary report statements
6. to examine into the adequacy of the disclosures made by accounting report statements.

This presentation of objectives does not produce a change in the nature of the several areas of accounting action or in their sequence. The second list supplements the prior tabulation of actions with a parallel tabulation of objectives. The two lists may be read together in pairs of items such as: (4) the accounting action of reclassifying is taken with the objective of reassigning, as between time periods, the data previously classified only as to qualitative characteristics.

We build the pyramid upward by adding another, and smaller, section near the top. Here we try to find reasons justifying the objectives in the section below, in the way that the objectives therein justified the actions classified in the lowest section. The sharp peak will represent a further compression of "whys"—an objective that is analyzed out of the whole structure below the peak.

#### *Antecedant Objectives*

1. to represent greatly diversified economic events and objects (transactions) in a manner that will permit them to be marshalled into a variety of useful calculations
2. to prepare economic data to enter a particular pattern of quasi-statistical classification (double entry accounts)
3. to substitute a small number of general categories (accounts) for a multitude of particular events (transactions)
4. to substitute segments of time (fiscal periods) for an unbroken flow of events and for the simple summaries by kinds initially accomplished by accounts
5. to communicate compactly and understandingly the compressed mass of enterprise events

6. to create additional confidence in the reported accounting data.

In a written presentation this list of objectives could well be placed beside the other lists so that all items could be read horizontally.

What objective stands at the peak? Can the whole pattern of accounting actions and objectives be the complex of a single purpose? Can the variously stated objectives be compressed into one so that each separate objective can be recognized as a partial fulfillment of the one major purpose?

A tentative formulation is suggested here: The top objective of accounting is to aid a person to understand a business enterprise by means of data.

Audited financial statements (item 6) are an aid to understanding an enterprise to a degree beyond that supplied by unaudited financial statements (item 5). Data made more comparable by being carefully classified into fiscal periods (item 4) are beyond question an important aid to an understanding of the flow of enterprise events. The compressing of a large number of like instances into one total, such as is accomplished by every ledger account, is an indispensable aid (item 3). Besides compressing a mass of data, accounts produce a sharp classification of data according to closely defined transaction qualities (item 2). None of this aid could be effectively accomplished unless the first step (item 1) in the sequence is taken first. For as long as events and objects are preserved in their heterogeneous characteristics they will lack the homogeneity necessary to permit them to be marshalled into informative categories and remmarshalled into understandable communication reports.

Another phrasing of the top objective might be arranged to incorporate the essence of the subordinate objectives: In order to achieve its chief objective of helping the people concerned to understand a

business enterprise, accountancy must classify its data without misrepresentation, compress them without distortion, report them without concealment.

This second phrasing may seem to say more than the first statement and for some uses may therefore be preferable. But the briefer first statement seems more appropriate as the outcome of a pattern which attempts to connect the systematic features of accounting actions with a comparably systematic plan of related accounting objectives.

After the pattern of objectives and actions is known, it is possible to chain one's thinking upward through various levels of justifications. And if desired, it is also possible to trace the effects of the top objective downward through several

strata of sub-objectives until its influence on rules and actions is perceived. Rules and actions may then be seen to express the application or accomplishment of objectives derived out of prior needs. Only in this sense do rules "derive" from antecedent principles. In a field like accountancy the word "immutable" is too strong an adjective to be attached to its principles. The principle of nature expressed by formulae to calculate the action of the force of gravity is indeed immutable. But no principle of accounting can have that quality. For us, principles can only be man-made expressions of man-made relationships; and these are not likely to be immutable, however significant and useful those statements of perceived relationships may be.

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# THE PRESENTATION OF CORPORATE INCOME AND EARNED SURPLUS

ARTHUR C. KELLEY

THE COMMITTEE of Accounting procedure of the American Institute of Accountants in Bulletin No. 35, dealing with the method of presentation of income and earned surplus, makes the recommendation "that the net income for the period be shown henceforth without deductions or additions of items which are properly excluded from the determination of net income." These items consist primarily of charges and credits with respect to the following:

- (a) General purpose contingency reserves, discussed in Bulletin No. 28;
- (b) Inventory reserves, discussed in Bulletin No. 31;
- (c) Extraordinary items which, if included, would impair the significance of net income, discussed in Bulletin No. 32;
- (d) Excessive costs of fixed assets and appropriations in contemplation of replacement of facilities at higher price levels, discussed in Bulletin No. 33.

There is no argument with respect to items (a), (b) and (d) mentioned above, and it is gratifying that the committee recommends the exclusion of such items in the determination of corporate net income. With regard to appropriations of income made in contemplation of high replacement costs, due to the decreased value of the dollar, mentioned in item (d), it must be admitted there are sound reasons in theory for charging such appropriations against income, in order to prevent impairment of capital and to avoid reporting corporate incomes at inflated and distorted figures, so far as the real economic income is concerned. The great difficulty, however, lies in the fact that no accounting technique has been evolved and accepted which would even approximately measure

economic income instead of monetary income in a period of continually changing value of the dollar. The problem is one of great complexity and until a satisfactory and generally accepted new technique of income measurement has been devised, it is well that the accounting profession should continue to follow the traditional procedures which are based on the assumption of a relatively stable value of the dollar.

With respect to the items of class (c), however, the case is very different. These, as explained in Bulletin No. 32, paragraph 11, are extraordinary items such as:

- (1) The elimination of unused reserves provided in prior years; and adjustments of income taxes for prior years;
- (2) Material charges or credits resulting from unusual sales of assets not acquired for resale and not of the type in which the company generally deals;
- (3) Material losses of a type not usually insured against, such as those resulting from wars, riots, earthquakes and similar calamities;
- (4) The write-off of a material amount of intangibles such as the complete elimination of goodwill or a trademark;
- (5) The write-off of material amounts of unamortized bond discount or premium and bond expenses at the time of the retirement or refunding of the debt before maturity.

With regard to items of class (1) the committee has definitely taken the position in Bulletin No. 28, that general purpose and contingency reserves should not be set up by a charge to income, but by charging surplus, and likewise any unused portion of such general purpose reserves should be credited to surplus and not to income. This is sound accounting theory because these are "surplus reserves" and as Bulle-

tin No. 28 states in paragraph 4(d) "costs or losses should not be treated as charges to such reserves, and no part of such a reserve should be transferred to income or in any way used to affect the determination of net income for any year."

With respect to any unused portions of "liability reserves" the case is different. Such reserves are estimated liabilities and properly set up by a charge to income of the year in which the liability accrued. If in a succeeding year the debt is paid by a reduced amount, the unused portion of the reserve appears to be a logical credit to income in the year when the debt was reduced and paid.

For example, if an income tax payable for the year 1948 was estimated at \$80,000 and set up as a liability reserve and charged against income for 1948, such a charge is, of course, proper. If, during 1949, the tax liability is reduced to \$50,000 by reason of a compromise or perhaps new court decisions, the difference of \$30,000 may properly be considered income for the year 1949, because it was during 1949 that the event took place which made it possible to pay the debt at the reduced amount. Is it not sound theory and logical to record as income for the year in which the settlement was made, any saving made in the payment of a properly accrued liability?

The same reasoning applies to adjustments of income taxes for prior years. If either refunds or additional taxes are received or paid during the year, such items may properly be considered as credits or charges to income for the year in which the settlement was made, rather than as surplus adjustments which will never appear in any income statement. Income, in the last analysis, is determined by events or happenings. It would seem that the controlling criterion for measuring income is the time of the event, because at that time the income or the loss occurs. Thus if a refund of income tax for prior years is

received in 1949, the event causing the increase in assets took place in 1949, and the refund thus becomes properly non-recurring income of 1949, rather than a surplus item.

With regard to items mentioned in class (3), these represent actual losses of assets due to "acts of God" or acts of men, and such diminutions of assets although occurring suddenly and unexpectedly, are in essence deductions against income even though they are unrelated directly to the regular trading or business operations. They are definitely related in respect to the basis of time, because the event which caused the loss took place during the period of time portrayed by the income statement.

As to item (4), it is doubtful if these have a proper place in the income statement because there is usually no objective method of measuring the amount of the diminution of such an asset as goodwill, except the actual sale of the trade name, at which time the realized loss would be established and be charged properly against income. But a mere write-down of goodwill, as the committee recommends, should not be charged to the year's income.

As to item (5), this is clearly a proper charge against the income for the year in which the retirement or refunding took place, because each bond issue is a separate contract, and if one issue is retired before maturity the essential nature of the transaction is that the unpaid interest on the borrowed funds, represented by the amount of the unamortized bond discount which ordinarily is paid at maturity when the bonds are redeemed at par value, is in this case paid ahead of time. Thus the unamortized bond discount is the measure of an interest payment which took place during the year, and as such constitutes a real charge against income.

If refunding bonds are issued they are actually and legally an entirely separate

contract with new creditors and should logically stand on their own feet. To merge the old unamortized bond discount with, and attach it to, the new bond issue is unnecessary, confusing and contrary to the legal facts, and serves no useful purpose except the enlargement or inflation of the income reported, if such a result can be deemed useful.

This leaves items of group (2) still to be commented on. These are the profits and losses on the sale or other disposition of capital assets, and since such transactions are not uncommon, and often result in large amounts, the exclusion of these items often has a great effect on the measurement of corporate income. In Bulletin No. 32 the committee contends that all the above items (1) to (5) inclusive, are "extraordinary items which may be excluded from the determination of net income for the year, and they should be excluded when their inclusion would impair the significance of net income so that misleading inference might be drawn therefrom."

The above quoted statement is not wholly clear because the committee does not explain the word "when," but presumably the committee feels that the misinterpretation would be very likely to occur often. The Committee definitely disapproves the inclusion of such material items in measuring net income on the ground that such inclusion would injure the meaning of the term "net income" so that one who reads the statement might be misled thereby.

Bulletin No. 32 states further the two methods now used of presenting these extraordinary items which, in the opinion of the committee, should be excluded from income. One method is to carry such items directly to the earned surplus account where they would appear as adjustments with proper explanations. The other method, in conformity with the "all-inclusive income concept," is to present these

items "at the bottom of the income statement immediately following the amount labeled "net income," and include them in the determination of the amount carried to surplus" (para. 12). What this "amount" is which is carried to surplus the committee does not explain. No descriptive name is given to it other than the vague general term "balance." The committee "expresses no preference for either of these methods" of income presentation in Bulletin No. 32.

It is gratifying that the committee took this position of letting the accountant choose either method of presenting the income statement. So long as this choice was permitted, those accountants who believe in the "all-inclusive income concept" could follow their judgment to a degree, and present the income statement all "in one piece" as it were. Of course, if they conformed with the committee's recommendation they would still not be able to describe the final figure as "net income," but would have to call it "balance to surplus."

However the committee underwent a decided change of mind as shown in Bulletin No. 35 wherein it recommends that only one method of income presentation be followed henceforth, namely, that all the extraordinary items (a), (b), (c) and (d) mentioned in Bulletin No. 32, be shown not in the income statement but only in the surplus account as surplus adjustments. This treatment, it is claimed, would minimize the possibility of a misconception arising in the mind of the reader as to what was the amount of the earnings or income for the year, since this amount would appear as "net income" usually shown as the final figure of the income statement.

Of course if this recommendation were generally accepted and followed by the accounting profession in this country, there would be achieved a *uniformity in method* of arriving at an amount which would always be labeled "net income" for the year. The basic question, however, is

this: Does this amount, so arrived at, constitute a more realistic measurement of net income of the corporation for the period?

It is the contention of the writer that this amount so arrived at does not constitute the net income of the enterprise, and to so describe it leads not to clear thinking on this subject of corporate incomes, but to confusion of thought in the mind of the reader. A more significant, adequate and more meaningful description of this amount is the "ordinary operating income" for the year. Does not this phrase describe the nature of this amount more completely and precisely than the term "net income"? This latter term has a different meaning not only in common parlance and generally accepted usage, but also in the field of economics and in the decisions of the courts.

It is surely not only desirable but very necessary for accountants to use the English language in its commonly accepted meanings, as far as that is possible, and only to change the meaning of a word in case of compelling necessity. It would be well therefore to consider what is the generally accepted meaning of the word "income" or "net income" as the accountants phrase it. According to Webster's International Dictionary the word "income" carries the following pertinent meanings:

- "A coming in, influx, inflow;
- Something that comes in as addition or increment;
- That gain or recurrent benefit (usually measured in money) which proceeds from labor, business or property;
- Commercial revenue or receipts of any kind;
- Synonyms: gain, profit, revenue."

In the realm of law the meaning of "income" as used by the courts of the land is shown by the following quotations from Black's Law Dictionary:

- "Income is the gain derived from capital, from labor or from both combined;
- Something of exchangeable value proceeding from the property, severed from the capital

and received or drawn by the recipient for his separate use, benefit and disposal;

Income is used in common parlance and in law in contradistinction to capital. Income when not derived from personal exertion is something produced by capital without impairing such capital, the property being left intact, and nothing can be called income which takes away from the property itself."

These definitions are clear and precise, and are generally understood and accepted by the public and by businessmen as adequate definitions of the word "income" or "net income." Why, then, does not the accounting profession accept and use the same meaning of this word? Why should accountants attempt to give the word a different and incomplete meaning by excluding the extraordinary capital gains and losses and other non-operating items of gain which these definitions clearly include in the concept of income?

The committee states in Bulletin No. 32 that the "most useful concept of income" is not that shown by the all-inclusive income statement, which would conform substantially with the above definitions, but rather a concept of income which excludes "from the determination of net income any material extraordinary items" which are not related to the current operations of the year. If such extraordinary profits and losses were included the committee believes they "would impair the significance of net income so that misleading inferences might be drawn therefrom." (Paragraph 6, Bulletin 32.)

The idea that accountants in adopting and using the all-inclusive concept of net income, including material capital gains and losses, would confuse and mislead the reader of the statement, is wholly a subjective idea in the minds of the majority of the committee. No objective evidence to this effect is submitted. On the other hand there are undoubtedly a great number of accountants who would agree with the opinion of the minority, Messrs.

Chamberlain, Paton and Stans, who believe "that the so-called all-inclusive concept provides the proper measure of net income and best serves the public interest because *it is least subject to reader misinterpretation* (italics added)." The minority is indeed on solid ground here because its concept of income is more in agreement with common usage.

The majority opinion seems to be that a reader of the all-inclusive type of income statement would be likely to think that the final figure of "net income" indicates the amount which the corporation was able to earn from its ordinary operations for the period, notwithstanding the fact that the "ordinary operating income" would be plainly designated and shown separately as the last figure of the operating section of the statement. If considered necessary this amount of operating income could be shown in bold-faced type so that it would stand out like a sore thumb, calling attention in this manner to the amount of earnings from ordinary operations. There would then be no chance of the reader drawing a wrong inference as to the amount of ordinary operating income for the period.

Then by casting his eye to the bottom of the income statement the reader would see another figure, the amount of the "net income" of the enterprise from all sources. Surely such an income statement would present the complete picture of what happened to the corporation during the year in a very informative manner, and the net income so shown could hardly be termed a confusing concept, likely to mislead the reader. On the contrary, such an income statement would be more significant and understandable to the general public than the other type recommended by the committee for the reason that the words "net income" would be used substantially in their commonly accepted and

legally sanctioned meaning. There is no doubt about the fact that capital gains constitute income in the language of the laymen, the economist and the lawyer, and hence their logical place is in the income statement.

It is very difficult to see a justification or need for the accounting profession to set up a new definition of "net income" not sanctioned by prevailing usage. There is a great difference between the meaning of the words "operating income" and "income" as defined by the courts. By calling the amount of the first the "net income" and the amount of the latter "balance to surplus" the committee has not clarified these concepts, but has added to the confusion of thought. If many accountants follow the committee's recommendation and prepare income statements in the form prescribed in Bulletin No. 35 confusion in the mind of the reader is most likely to result because the "net income" so shown will have a different and unique meaning not shared or sanctioned in other fields of thought. This bulletin does indeed sharpen one concept of "net income" but at the same time it has distorted and impaired its full and proper meaning.

It is to be hoped that the committee may reconsider this matter, and be willing to change the descriptive name of the final figure determined according to Bulletin No. 35 to "ordinary current operating income," instead of "net income." Then those accountants who prefer to present the all-inclusive type of income statement could use the term "net income" in its commonly understood meaning to describe the final figure of that income statement. It would seem that this suggested terminology would have the definite merit of being not only of greater significance, but also of being more in agreement with common parlance and with the language of the courts.



# LIFO AS A METHOD OF DETERMINING DEPRECIATION

DONALD B. WOOMER

THE PRESENT PERIOD of rising prices has once again focused attention upon the refusal of most accountants to base many of their practices upon economic concepts. For many years a great number of accountants have pursued their studies and practices secure in the belief that their profession was concerned with matters of a different nature than those with which the economists were concerned. However, such is not the case. Both the economist and the accountant are, or should be, primarily concerned with aiding the businessman in making sound judgments in the conduct of his affairs. The economist is striving to build up a set of concepts and principles to serve as a guide to the businessman in the formulation of his policies under a given set of circumstances. Sound policy determination requires that the businessman have at his disposal sufficiently accurate data to permit him to appraise correctly the present condition of his own firm and of the economy as a whole. Many of these necessary facts are of a statistical nature and are supplied to the firm by governmental and private research organizations. However, a great portion of these facts are furnished by the firm's accountant. Furthermore, many of the data supplied by statistical organizations are based upon financial reports prepared by accountants.

The value of this information is seriously impaired if not rendered entirely useless, in times such as we are experiencing today, by the accountant's refusal to employ generally accepted economic concepts and principles. An example of this attitude on the part of many accountants may be found in the following statement by Edward B. Wilcox: "There is here an

implicit premise that accounting for income should reflect economic rather than monetary gain although that premise has never been explicitly stated or justified."<sup>1</sup> What greater justification can be found for the adherence to economic concepts in accounting than the fact that accountants are supplying information to the businessman to aid him in the determination of economic judgments? Economists learned many years ago that the *money veil* had to be lifted in order to understand the economic world. What justification is there for the accounting profession to continue to cloak much of its vital information behind this same deceptive veil?

The present problem of depreciation that is facing the accounting profession provides a vivid illustration of the difficulties that arise only because of the variance between economic and accounting concepts. The problem is a result of our rapidly changing price level, but the inability of the accounting profession to supply an adequate procedure to cope with the situation stems, in the main, from its insistence upon using the *historical cost* concept in spite of the fact that cost determined by this method bears little or no relation to economic cost. An instance of the inadequacy of the present concept of accounting in this matter can be found in the recent action of the United States Steel Corporation in shifting to the *last-in-first-out* method for handling long term inventories.

In discussing short-term inventories, the United States Steel Corporation made the following statement in its 46th Annual Report (p. 25): "An accepted procedure for

<sup>1</sup> Edward B. Wilcox, "When Should LIFO Be Used?" *Journal of Accountancy*, February, 1948, p. 98.

determining the cost of short-term inventories is the *last-in, first-out* method." Commenting further on this procedure (p. 26), the report states that this method is a "... generally accepted accounting practice. . . ." In the same report, the company explains its treatment of long-term inventories as follows: "believing that the same principle of recording the cost of short-term inventories is applicable to recording the cost of long-term inventories consumed (wear and exhaustion of machinery, plants and mines), U. S. Steel in 1947 increased its provision for wear and exhaustion from \$87.7 million based on original cost to \$114.0 million or by 30 per cent. This was a step toward stating wear and exhaustion in an amount which will recover in current dollars of diminished purchasing power the same purchasing power as the original expenditure."

These statements represent a serious challenge to the accounting profession for both practices violate the concept of historical cost that has so long played a dominant role in the theory of accounts. In the *Tentative Statement of Accounting Principles Affecting Corporate Reports* in the ACCOUNTING REVIEW it is pointed out that "Accounting is thus not essentially a process of valuation, but the allocation of historical cost and revenues to the current and succeeding fiscal periods."<sup>2</sup> In the revised statement of principles, published in 1941, no direct reference to historical cost is made, but there is nothing in the statements that would indicate a departure from this stand. In the 1948 revision the following statement is made:

"There should be no departure from the cost basis to reflect the assets of an enterprise at amounts higher than unassigned cost. Continuous replacements of assets, frequently of a type different from those replaced, and the practical dif-

iculty of measuring replacement value, emphasize the need for a historical record in terms of the consistent, objective basis of cost."<sup>3</sup>

The accounting profession has adhered to the concept of historical cost in spite of repeated attacks in periods of changing prices when its limitations are felt most acutely.

In outlining the purpose of accounting, the American Accounting Association has set forth the following principles:

"The purpose of periodic financial statements of a corporation is to furnish information that is necessary for the formulation of dependable judgments. A knowledge of the origin and expiration of the economic resources of a company and the resultant changes in the interests of its creditors and investors is essential for this purpose and these facts should be expressed in such a way as to make the financial statements both intelligible and, as far as possible, comparable with those of other periods and other corporations."<sup>4</sup>

In order to do this we must know the value of economic resources when they enter the company and when they expire. Economists define value as utility. Thus the value of the economic resources of the corporation will depend upon their usefulness to the corporation. This concept is of little use to the accountant without some measure of this usefulness. Not only is it necessary to give the accountant some measure of this utility but it is necessary to provide him with a measure that will tend to equate the value of similar resources owned by different corporations. Value in exchange provides us with a reasonable measurement of the value of resources, and our money unit provides us with a means of expressing this value on the books of the corporation. Thus at the time of acquisition the money expended to secure the asset represents the most reasonable and the

<sup>2</sup> American Accounting Association, *Accounting Concepts and Standards Underlying Corporate Financial Statements*, 1948 Revision, p. 2.

<sup>3</sup> American Accounting Association, "Accounting Principles Underlying Corporate Financial Statements," ACCOUNTING REVIEW, June, 1941, p. 133.

<sup>4</sup> American Accounting Association, "A Tentative Statement of Accounting Principles Affecting Corporate Reports," ACCOUNTING REVIEW, June, 1936, p. 187.

most accurate basis for recording the value of the asset as an economic resource of the corporation. It is significant to note that this method of valuation finds widespread acceptance among both economists and accountants.

Another basic concept of accounting calls for relating expired costs to revenue. Expense is defined as the cost of those assets which have been surrendered or which have expired in the derivation of revenue. In economics, cost is represented by the utility given up to secure other utility. Similarly in accounting the cost of securing revenue is represented by the utility or resources given up in obtaining the revenue. Income in both the economic sense and in the accounting sense is the difference between cost and revenue or the increase in the net resources measured over a period of time. In accounting, the balance sheet should reflect income by the increase in the net worth, excluding of course additional investments and withdrawals. If we have been successful in measuring the amount of our resources that have expired in securing revenue, then the income statement will reflect, in terms of our monetary unit, the increase in net assets over a period of time. But the question to be answered is whether or not historical cost represents the real value of our assets at the time of their expiration.

The supply of and demand for the economic resources of the economy is constantly changing within our economic system and with these changes in supply and demand the value of the resources in terms of other resources (their real value) is constantly changing. Some authors prefer to call such gains capital gains. It is doubtful whether such gains in real value represent real income to an economic society, but what about the individual firm? Unless all firms hold like portions of the same asset, this rise in the value of assets represents real increase in the value of the firm's

economic resources and within the framework of our concepts, represents real income to the firm. When such shifts take place, historical cost no longer represents the real value of the assets of the corporation. However, it should be noted that if the recorded cost is not changed on the books of the corporation, the real income that has accrued to the firm through this increase in the value of the assets will be taken into account at the time the asset is exchanged for it must follow that if the assets' real value has increased it will command a greater value on the market.

What then, is the consequence of failing to readjust the historical cost on the books of the corporation? It is reflected in the cost of securing the new asset or in securing revenue. The cost of the new asset to the corporation must be the value of the asset surrendered for it and the cost of any revenue must be the assets surrendered for it. But if we have understated the value of the old assets, we have understated the cost of the new asset or the cost of the revenue. From this it must follow that the concept of historical cost is incompatible with the concept of matching costs and revenues except under the unrealistic assumption that the demand for and supply of each type of goods remains the same or changes proportionately.

It must be realized, however, that accounting is a practical science and that we cannot always carry our theoretical economic concepts over into the world of reality. To attempt to keep track of the changes in value of each asset held by the company would entail a prohibitive cost. Further, if accounting is to be of real value to the businessman, we are not in a position to depart too far from our concept of a measured consideration. There is no practical way of measuring these almost constant changes in value even if it were practical to record them. In some instances, real value will change considerably from

historical value (assuming no change in the general price level) and accountants are willing to recognize such changes only when they bring about an extreme distortion of the income picture. In addition to the practical barriers, it is doubtful whether changes in value of this nature are sufficiently large during the life of the average corporation asset to warrant taking them into consideration.

Assuming a constant price level, historical cost would seem to represent the best method of asset valuation. In the case of inventories, the historical cost concept would provide the most accurate criterion of the cost of the goods sold. In the case of fixed assets, depreciation charges will be most accurate if based on historical cost. It is recognized that it does not represent a theoretically true picture of the situation, but to attempt to depart from it would probably, in the absence of a measured consideration, result in a less accurate picture.

There is, however, another factor that can cause a difference between historical value and real value. That factor is the changing price level. Unfortunately, the unit of measurement in accounting is a constantly changing one and the change in a short period of time can be considerable. At the time of acquisition the money value of the asset represents the real value of the asset, for the money needed to command the asset will command other goods of equal value. Money merely serves as a medium of exchange, the real value of the asset is derived from the other goods it will command or its purchasing power. When there is a change in the value of the unit of measurement, adherence to historical cost makes it difficult to measure cost against revenue. As an asset expires in the productive process we are giving up purchasing power for goods which will command other goods. Thus the cost of the goods produced or the revenue

that accrues from them is the purchasing power that has expired. This is the only true and real cost that the firm has incurred. If the general price level increases fifty per cent, the purchasing power and real value of our assets has not necessarily changed. The purchasing power of the dollar, however, has decreased and the historical cost of our asset is recorded in terms of this reduced purchasing power. If we record depreciation on the basis of this reduced unit, we are no longer measuring the value of the machine that has expired in the productive process which is the purpose of depreciation. When we dispose of inventories acquired during a period of lower prices, we are not measuring value surrendered or cost when we record the cost of the goods sold in terms of the reduced purchasing power unit.

Under these circumstances, the balance sheet becomes meaningless. It no longer records the value of the resources of the enterprise, the purpose for which it was originally intended. Dollar totals only have significance in terms of purchasing power and if the assets are recorded in terms of dollars of different purchasing power, it is impossible to add the totals and arrive at a figure that has any significance at all. We would not think of recording some of our assets in pounds, some in krona, others in rubles and still others in dollars, but we are committing no less a folly when we add dollars of different purchasing power. The increasing stress on the income statement can be directly attributed to the adherence to historical cost in times of a changing money unit. Accountants seem to have realized that the balance sheet is meaningless under these circumstances but rather than correct the situation have shifted emphasis to an area in which the error is less obvious and more easily concealed. We hear now of the *commitment interpretation* of the balance sheet and the *cost in suspense*

theory of the balance sheet. Under proper conditions, the balance sheet does represent costs in suspense but if the unit of measure does not measure real cost it has no more validity as a representation of costs in suspense than it has as a representation of the economic resources of the business. Under present accounting procedures the value of the income statement is just as seriously impaired. It does not measure cost against revenue and cannot until a common unit of measurement is used for all items. The dollar is not a common unit of measurement.

Too often accountants meet these charges with the reply that they are well aware of the limitations of accounting, but the prime purpose of accounting is to record the financial history of the company. It is the opinion of this writer that the usefulness of such a history varies inversely with the degree of fluctuation in the price level.

What means of overcoming this problem are available to the businessman and the accountant? The application of the principles of the *last-in-first-out* inventory valuation to the depreciation of fixed assets has its merits in the fact that it results in a profit figure more in line with the economic gain of the period. As was stated earlier, value in exchange provides the best criterion of value. The accounting profession, quite understandably, desires to base all entries upon some measurable consideration. The LIFO method meets this requirement of a measured consideration. It does not, however, result in a valuation or depreciation charge equal to the economic value. This disparity between economic cost and the cost applied under this method depends upon the length of the period from the time of the last acquisition of assets of the nature being depreciated and the fluctuations of the price level during this period. However, this period is normally a shorter one than the

period that would have elapsed between the acquisition of each particular asset and the time when depreciation is charged. The shorter period of time involved in the LIFO method makes it reasonable to expect a cost more in accord with economic cost than would be possible if depreciation was based on historical cost. Thus LIFO has the advantage of providing a measured consideration that is more in accord with the economic cost than can be reasonably expected under the method of historical cost in face of a fluctuating price level, but it would rarely, if ever, result in an exact representation of economic cost. The latter would only be possible if there were no fluctuations in the price level between the time of the last acquisition and the time when the depreciation was charged.

In addition to the fact that it does not measure economic cost accurately, the LIFO method has the added disadvantage of distorting the balance sheet to the point where it has little or no economic significance. Assets are properly listed on a balance sheet at their historical cost less the depreciation accumulated to date. If the assets are listed at historical cost less accumulated depreciation under the LIFO method, the net figure representing the value of the asset would be more incorrect and meaningless than the figure under the historical cost method. In a period of rising prices, the LIFO method would call for increased depreciation charges, resulting in a larger depreciation reserve and, in terms of current dollars, the value of the asset would be understated more than would be the case if historical costs were adhered to. In a period of falling prices, the LIFO method would result in a balance sheet figure that overstated the value of the asset more than would be the overstatement in the case of historical costs.

Under these circumstances, is the use of LIFO to be recommended over the his-



torical cost method? It is the opinion of this writer that LIFO, in spite of the fact that it does not represent the ideal solution, is more desirable than historical cost. The latter method results in an inaccurate balance sheet and an inaccurate income statement. LIFO does cause an even more inaccurate balance sheet but this disadvantage is more than offset by the fact that it does measure cost more closely in terms of economic cost than is possible under the historical cost method.

Another method that is often suggested for overcoming the difficulties involved in the use of historical cost is the issuing of supplementary statements or providing supplementary data with regular statements. This method is certainly an improvement over the historical cost method assuming that there is a valid need for both statements. However, there is one serious difficulty involved in the issuance of the two statements. The condition and progress of the company as represented by one series of statements may be so different from its condition and progress shown by the supplementary data as to arouse skepticism of the validity of either.

Another means of attacking the problem is by basing depreciation costs on replacement value rather than historical cost. In the ACCOUNTING REVIEW of April, 1948 Professor Dohr points out three serious objections to this method.<sup>5</sup> They are: (1) Such cost is not objectively verifiable, (2) it fails to distinguish between changes due to fluctuations in the price level and changes due to other causes, and (3) it obscures the function of cost recovery.

Another method for overcoming the difficulty is the so-called "quasi reorganization" plan. It is assumed under this scheme that the administrative officers of the company have had turned over to them a group of assets for a period of stewardship. At the end of the period an accounting is made of

the stewardship for the period and a new stewardship is then formed. Such a plan would overcome many of the difficulties involved in the use of historical cost. It should be realized, however, that the *reorganizations* could only take place at infrequent intervals and as the period of stewardship lengthens the less effective is the method. Another difficulty with the plan is that a measured consideration would not be available for all the assets concerned at the time of the formation of a new stewardship.

In his book, *Stabilized Accounting*, Sweeney has presented a plan that represents the ideal solution to the problem although the practical application of the method involves serious difficulties.<sup>6</sup> Sweeney proposes that a price index be compiled and the dollar figures on the statement be corrected with this index. This would provide the accountant with a uniform dollar and remove the discrepancies in the statements resulting from changes in the price level. The serious difficulty involved is that a general price index could not be used because all firms naturally do not buy the same proportion of similar goods and prices do not rise proportionately for all goods. Therefore each firm, or certainly each industry, would have to compile its own index based on the goods that it normally would purchase. It would seem that the advantages of using this method would outweigh the disadvantages involved in compiling the necessary indices. Use of this method would result in a statement that reflected the economic resources of the corporation as of the balance sheet date, and the income statement would represent an accurate picture of the flow of economic resources into the business and the economic resources surrendered in securing the incoming flow. This is the goal to which the accounting profession should aspire.

<sup>5</sup> James L. Dohr, "Depreciation and the Price Level," ACCOUNTING REVIEW, April, 1948, p. 118.

<sup>6</sup> H. W. Sweeney, *Stabilized Accounting* (New York: Harper Brothers, 1936).

# THE SOLUTION OF PROCESS COST PROBLEMS

DENNIS GORDON

**S**TUDENTS VISUALIZE and solve problems in process cost accounting more readily if they are taught to use a simple bar diagram.

The bar diagram is based on this equation:

BEGINNING INVENTORY OF WORK IN PROCESS	+	GOODS PUT INTO PRODUCTION	=	TOTAL AVAILABLE FOR COMPLETION
FINISHED GOODS	+	ENDING INVENTORY OF WORK IN PROCESS	=	TOTAL ACCOUNTED FOR

Actually the diagram is a restatement of the cost-of-goods-sold equation taught in elementary accounting. The cost of the beginning inventory plus the material, labor, and overhead put into production during the period equals the cost of the finished goods plus the work in process at the end of the period. This statement is true whether or not there has been any spoilage or shrinkage during the processing period, because the loss is absorbed by the good units produced.

After the instructor has introduced and illustrated the concept of finished unit equivalents, he is ready to work a simple problem.

Assume the production report gives the following information:

Beginning inventory, 10,000 units $\frac{1}{4}$ complete.....	\$ 3,000.00
Cost of manufacturing (material, labor, and overhead) for the month.....	185,000.00
Placed into production, 100,000 units	
Finished, 85,000 units	
Remaining work in process, 25,000 units $\frac{3}{4}$ complete	

In solving this problem, the student can immediately see that the value of the finished units plus the work remaining in process at the end of the period must total \$188,000. How should this amount be divided between finished goods and work in process?

Prepare a bar diagram to visualize the problem:

BEGINNING INVENTORY 10,000 units $\frac{1}{4}$ complete	+	UNITS PUT INTO PRODUCTION 100,000 units	=	110,000 units
FINISHED UNITS 85,000 units	+	ENDING INVENTORY 25,000 units $\frac{3}{4}$ complete	=	110,000 units

Then compute the finished unit equivalent, which simply means the number of fully finished units that would have been manufactured if there were no beginning or ending inventories of work in process.

The computation is as follows:

FINISHED UNITS	+	UNIT EQUIVALENT OF ENDING INVENTORY	-	UNIT EQUIVALENT OF BEGINNING INVENTORY	=	FINISHED UNIT EQUIVALENT
85,000	+	10,000	-	2,500	=	92,500

A variation of this equation is:

$$\begin{array}{l} \text{UNITS EQUIVALENT} \\ \text{NECESSARY TO COM-} \\ \text{PLETE BEGINNING} \\ \text{INVENTORY} \end{array} + \begin{array}{l} \text{UNITS FINISHED} \\ \text{TAKEN FROM UNITS} \\ \text{PUT INTO PRODUC-} \\ \text{TION THIS MONTH} \end{array} = \begin{array}{l} \text{UNIT EQUIVALENT} \\ \text{OF ENDING INVEN-} \\ \text{TORY} \end{array} + \begin{array}{l} \text{FINISHED} \\ \text{UNIT} \\ \text{EQUIVALENT} \end{array}$$

$$\frac{2}{3} \text{ of } 10,000 \text{ or } 7,500 + (85,000 - 10,000 = 75,000) + 10,000 = 92,500$$

The latter way of determining the finished unit equivalent parallels the procedure used to compute finished goods and work in process, but many students seem to grasp the first form more readily.

Students frequently ask why the unit equivalent of the beginning inventory is not included in the finished unit equivalent. Point out that the goods in process at the beginning of the month are already worth \$3,000, and none of the \$185,000 went into the first quarter of the beginning inventory, but a portion of this amount was needed to complete 7,500 units (the remaining three quarters) of the beginning inventory. Since it is logical to assume that the goods in process at the beginning of the month were first completed (first in, first out), then the 7,500 units are included in the 85,000 finished at the end of the month.

The departmental cost for the month is computed next:

$$\text{Unit cost for the month} = \frac{\text{Total cost for the month } \$185,000}{\text{Finished unit equivalent } 92,500 \text{ units}} = \$2.00$$

The cost of the 85,000 finished units is determined as follows:

1. The cost of the beginning inventory was.....	\$ 3,000
2. The cost to complete the beginning inventory:	
Unit cost $\times$ Unit equivalent of beginning inventory or $\$2.00 \times 7,500$ .....	15,000
Total cost of 10,000 units.....	\$ 18,000
3. Cost of units STARTED and FINISHED THIS month:	
75,000 units at unit cost of \$2.00.....	150,000
COST OF 85,000 FINISHED UNITS.....	<u>\$168,000</u>

The cost of the work in process is then calculated:

1. 25,000 units $\frac{2}{3}$ complete is the equivalent of 10,000 fully finished units. Multiply by the unit cost of \$2.00 per unit to get.....	\$ 20,000
PROOF	
Beginning Inventory.....	\$ 3,000
Goods put into production.....	185,000
	<u>\$188,000</u>
Finished Goods.....	\$168,000
Work in Process.....	20,000
	<u>\$188,000</u>

The next step is to ascertain the unit cost of the goods finished and transferred. If it is assumed that there is no physical separation of the lots making up the work in process at the beginning of the month and the units added during the month, then we find 85,000 units worth \$168,000, or an average of \$1.976 per unit. This is because some of the goods finished this month were partially manufactured in a previous period when the unit cost of manufacture was lower.

When material is applied at a rate different from labor and overhead, separate unit equivalents have to be computed. A diagram helps to visualize the problem.

Given the following problem:

"Opening inventory 2,000 units one-half completed, and 6,000 units one-fourth completed; started in process 27,000 units; finished 29,000 units; closing inventory 3,000 units one-third completed, and 3,000 units one-half completed.

"Assume that 75 per cent of the materials go into production at the beginning of the process and 25 per cent when the process is one-half completed.

"Material cost for the month is \$13,875; labor cost, \$20,000; overhead \$38,000. Find the value of the goods finished and the value of the goods remaining in process. The inventory at the beginning of the month is \$3,000."

The first step is to prepare a box diagram, inserting the stage of completion of labor and overhead.

BEGINNING INVENTORY		STARTED 27,000	UNITS =35,000
2,000 units $L+O=\frac{1}{2}C$	6,000 units $L+O=\frac{1}{2}C$		
FINISHED 29,000 units	CLOSING INVENTORY		=35,000
	3,000 units $L+O=\frac{1}{3}C$	3,000 units $L+O=\frac{1}{2}C$	

Attention can then be concentrated on the stage of completion of the material. The problem states that 75 per cent of the materials go into production at the beginning of the process and 25 per cent when the process is half completed. The first 2,000 units in the beginning inventory contain all the material since these units are half completed with respect to labor and overhead. The remaining 6,000 units in the opening inventory have only 75 per cent of the material cost in them since these units are less than one-half completed. Next follows the analysis of the ending inventory. The 3,000 units one-third completed with respect to labor and overhead contain 75 per cent of the material and the 3,000 units one-half completed with respect to labor and overhead contain all the material added in the department.

Insert this information in the bar diagram, and it looks like this:

BEGINNING INVENTORY		STARTED 27,000	
2,000 units $L+O=\frac{1}{2}C$ $M=\text{all } C$	6,000 units $L+O=\frac{1}{4}C$ $M=75\%C$		
FINISHED 29,000 units		CLOSING INVENTORY	
		3,000 units $L+O=\frac{1}{3}C$ $M=75\%C$	3,000 units $L+O=\frac{1}{2}C$ $M=\text{all } C$

Now the finished unit equivalent of material can be computed:

Units finished 29,000	+	Unit equivalent of ending inventory $75\% (3,000) + 100\% (3,000)$	
	-	Unit equivalent of beginning inventory $100\% (2,000) + 75\% (6,000)$	= Finished unit equivalent 27,750

Material cost, \$13,875, is divided by the material finished unit equivalent, 27,750 units, to get the unit cost of material, \$0.50.

The finished unit equivalent of labor and overhead is next computed:

$$\begin{array}{rcl}
 \boxed{\begin{array}{l} \text{Units finished} \\ 29,000 \end{array}} & + & \boxed{\begin{array}{l} \text{Unit equivalent of ending inventory} \\ \frac{1}{2} (3,000) + \frac{1}{2} (3,000) \end{array}} \\
 & - & \boxed{\begin{array}{l} \text{Unit equivalent of beginning inventory} \\ \frac{1}{2} (2,000) + \frac{1}{2} (6,000) \end{array}} = \boxed{\begin{array}{l} \text{Finished unit equivalent} \\ 29,000 \end{array}}
 \end{array}$$

Labor and overhead total \$58,000, so the conversion cost per unit is \$2.00.

The cost of the finished goods (29,000 units) is calculated as follows:

1. Cost of the beginning inventories.....	\$ 3,000.00	
2. Cost to complete the beginning inventories		
2,000 units ( <i>M</i> , 100% <i>C</i> ; <i>L</i> + <i>O</i> , $\frac{1}{2}$ <i>C</i> ):		
<i>M</i> —None added this month		
<i>L</i> + <i>O</i> —1,000 units @ \$2.00—to complete.....	2,000.00	
6,000 units ( <i>M</i> , 75% <i>C</i> ; <i>L</i> + <i>O</i> , $\frac{1}{2}$ <i>C</i> ):		
To complete <i>M</i> —1,500 units @ \$0.50.....	\$ 750.00	
To complete <i>L</i> + <i>O</i> —4,500 units @ \$2.00.....	9,000.00	9,750.00
3. Total cost of the 8,000 units when complete.....		\$14,750.00
4. Cost of the additional 21,000 units which came from this month's production:		
21,000 units @ \$2.50 ( <i>M</i> , <i>L</i> + <i>O</i> ).....		52,500.00
5. Total cost of the 29,000 units finished during the month.....		<u>\$67,250.00</u>

The ending inventory is then computed:

1. 3,000 units:		
<i>M</i> , 75% <i>C</i> = 2,250 @ \$0.50.....	\$1,125.00	
<i>L</i> + <i>O</i> , $\frac{1}{2}$ <i>C</i> = 1,000 @ \$2.00.....	2,000.00	\$ 3,125.00
2. 3,000 units:		
<i>M</i> , 100% <i>C</i> = 3,000 @ \$0.50.....	\$1,500.00	
<i>L</i> + <i>O</i> , $\frac{1}{2}$ <i>C</i> = 1,500 @ \$2.00.....	3,000.00	4,500.00
		<u>\$ 7,625.00</u>

PROOF

Beginning Inventory.....	\$ 3,000.00	Finished Goods.....	\$67,250.00
Material.....	13,875.00	Ending Inventory.....	7,625.00
Labor.....	20,000.00		
Overhead.....	38,000.00		
Total to account for.....	<u>\$74,875.00</u>		<u>\$74,875.00</u>

A short cut in computation would be to value the ending inventory, subtract this amount from the total costs to be accounted for, and thus arrive at the cost of the goods finished.

Suppose the process-cost problem involved shrinkage. As an illustration of how to approach the problem, assume the following facts:

Direct cost of Department B:	
Material.....	\$2,350.00
Labor.....	4,300.00
Manufacturing Expense.....	3,225.00
	<u>\$9,875.00</u>



Work in process at the beginning of the month in Department B consisted of 5,000 units valued at \$14,025. The inventory was one-fifth completed with reference to material and two-fifths completed with reference to labor and overhead. During the month 25,000 units were received by the department at a cost of \$45,000.

There were 21,500 units finished and transferred to the stockroom during the month, and the unfinished work at the end of the month consisted of 6,000 units. The stage of completion of the work in process at the end of the month was as follows: Material, one-half completed; Labor and overhead, one-third completed. All units lost or spoiled arose from production started during the current month.

Diagram the facts as follows:

BEGINNING INVENTORY 5,000 units $M = \frac{1}{5}C$ $L + O = \frac{2}{5}C$	GOODS RECEIVED FROM DEPT. A 25,000 units		TOTAL UNITS
			30,000
FINISHED AND TRANSFERRED 21,500 units	SPOILED 2,500 units	ENDING INVENTORY 6,000 units $M = \frac{1}{2}C$ $L + O = \frac{1}{3}C$	30,000

Since the problem stated that all the spoilage applied to the goods transferred from Department A, the first step is to get a new unit cost for the goods transferred. The 25,000 units brought in shrank to 22,500, and since the units that are good absorb the loss in shrinkage, the unit cost of the goods brought in is recomputed at  $\$45,000 \div 22,500$  or \$2.00.

Then proceed as follows:

FINISHED UNIT EQUIVALENTS:

Material:  $21,500 + \frac{1}{2}(6,000) - \frac{1}{5}(5,000) = 23,500$

Labor and Overhead:  $21,500 + \frac{1}{3}(6,000) - \frac{2}{5}(5,000) = 21,500$

UNIT COSTS:

Unit costs brought in during the month:  $\$45,000 \div 22,500 \text{ units} = \$2.00$

Material, Department B  $\$2,350 \div 23,500 \text{ units} = .10$

Labor and Overhead, Department B  $\$7,525 \div 21,500 \text{ units} = .35$

Cost of 21,500 units finished and transferred:

Inventory in process, beginning of month, 5,000 units . . . . . \$14,025.00

Costs to complete:

Materials— $\frac{1}{2}$  of 5,000 units @ \$.10 . . . . . \$ 400.00

Labor and Overhead— $\frac{1}{3}$  of 5,000 @ \$.35 . . . . . 1,050.00

1,450.00

\$15,475.00

16,500 units which came from Department A this month:

Department A cost per unit . . . . . \$2.00

Department B—material, labor, overhead . . . . . .45

16,500 units times . . . . . \$2.45 40,425.00

\$55,900.00

\$55,900.00

Cost of 6,000 units remaining in Department B:

Department A cost per unit—6,000 @ \$2.00.....	\$12,000.00
Material cost, Department B— $\frac{1}{2}$ (6,000) @ \$.10.....	300.00
Labor and overhead cost, Department B— $\frac{1}{2}$ (6,000) @ \$.35.....	700.00
	<u>\$13,000.00</u>

PROOF

Beginning inventory.....	\$14,025.00	Cost of goods finished.....	\$55,900.00
Direct costs.....	9,875.00	Cost of ending inventory.....	13,000.00
Department A costs.....	45,000.00		
	<u>\$68,900.00</u>		<u>\$68,900.00</u>

Further problems might concern shrinkage in the opening inventory as well as in the goods brought in from the previous departments, but if the student learns to diagram the facts, he will have less difficulty in arriving at a solution.

Where there are two or more departments in the production cycle, as indicated in the shrinkage problem above, it is important to remember that every department beyond the first must include in its analysis the costs brought in from the previous department.

The illustration below shows the procedure for solving process cost problems when there is more than one department:

1. Compute finished unit equivalents for each department.
2. Get the unit cost for each department.
3. In successive order, find the cost of the goods finished and transferred, then the cost of the goods remaining in process.

The student will have more confidence in his solution because he can see that:

1. Units are accounted for.
2. The cost of the goods finished plus the ending inventory corresponds to the cost of the beginning inventory plus the cost of manufacturing.

PROCESS COST ILLUSTRATION—WITH BEGINNING INVENTORIES OF WORK IN PROCESS

	DEPT. A	DEPT. B	DEPT. C
	400 $\frac{1}{2}$ C   1,800	500 $\frac{1}{2}$ C   1,700	200 $\frac{1}{2}$ C   1,900
	1,700   500 $\frac{1}{2}$ C	1,900   300 $\frac{1}{2}$ C	1,700   400 $\frac{1}{2}$ C
1. Production cost of department.....	\$3,800.00	\$2,700.00	\$ 4,050.00
2. Finished unit equivalent.....	1,900.00	1,800.00	1,800.00
3. Unit cost of department.....	2.00	1.50	2.25
4. Unit cost of goods finished and transferred to next department.....	2.00	3.55263	5.54643
COSTS TO ACCOUNT FOR:			
5. Production costs of department.....	3,800.00	2,700.00	4,050.00
6. Costs transferred from previous department..	—	3,400.00	6,750.00
7. Beginning inventory of department.....	400.00	1,400.00	500.00
TOTAL.....	<u>\$4,200.00</u>	<u>\$7,500.00</u>	<u>\$11,300.00</u>
ACCOUNTED FOR AS FOLLOWS:			
8. Value of goods finished and transferred.....	\$3,400.00	\$6,750.00	\$ 9,428.94
9. Value of ending inventory.....	800.00	750.00	1,871.06
TOTAL ACCOUNTED FOR.....	<u>\$4,200.00</u>	<u>\$7,500.00</u>	<u>\$11,300.00</u>

WORK IN PROCESS DEPARTMENT A			WORK IN PROCESS DEPARTMENT B			WORK IN PROCESS DEPARTMENT C		
BI \$ 400.00	to B \$3,400.00		BI \$1,400.00	to C \$6,750.00		BI \$ 500.00	to FG \$ 9,428.94	
M 1,000.00	EI 800.00		M 1,000.00	EI 750.00		M 1,000.00	EI 1,871.06	
L 1,000.00			L 900.00			L 1,550.00		
O 1,800.00			O 800.00			O 1,500.00		
<u>\$4,200.00</u>	<u>\$4,200.00 from</u>			from				
EI \$ 800.00			A \$3,400.00			B \$ 6,750.00		
			<u>\$7,500.00</u>	<u>\$7,500.00</u>		<u>\$11,300.00</u>	<u>\$11,300.00</u>	
			EI \$ 750.00			EI \$ 1,871.06		

Symbols: M = Materials  
           L = Labor  
           O = Overhead Expense

BI = Beginning Inventory  
 EI = Ending Inventory

FINISHED GOODS

\$9,428.94

## COMPUTATIONS

## DEPARTMENT A:

## COST OF GOODS FINISHED AND TRANSFERRED (1,700 units):

Beginning of inventory—400 units $\frac{1}{2}$ C cost.....	\$ 400.00
Costs to complete: equivalent of 200 units @ \$2.00.....	400.00

	\$ 800.00
1,300 units—from goods started this month @ \$2.00.....	2,600.00

\$3,400.00

## COST OF ENDING INVENTORY:

500 units— $\frac{1}{2}$ C equivalent of 400 @ \$2.00.....	\$ 800.00
--	-----------

## DEPARTMENT B:

## COST OF GOODS FINISHED AND TRANSFERRED (1,900 units):

Beginning inventory—500 units $\frac{1}{2}$ C cost.....	\$1,400.00
Costs to complete: equivalent of 300 units @ \$1.50.....	450.00

\$1,850.00

## Received from Department A and finished this month—1,400 units:

Cost in Department A @ \$2.00.....	\$2,800.00
Cost in Department B @ \$1.50.....	2,100.00

\$6,750.00

Finished and transferred 1,900 units @ \$3.55263.....

COST OF ENDING INVENTORY (300 units  $\frac{1}{2}$ C):

Cost in Department A—300 @ \$2.00.....	\$ 600.00
Cost in Department B—100 @ \$1.50.....	150.00

\$ 750.00

## DEPARTMENT C:

## COST OF GOODS FINISHED AND TRANSFERRED (1,700 units):

Beginning inventory—200 units $\frac{1}{2}$ C cost.....	\$ 500.00
Costs to complete: equivalent of 100 units @ \$2.25.....	225.00
	<u>\$ 725.00</u>

Received from Department B and finished during month—1,500 units:

Cost in Department A @ \$2.00.....	\$3,000.00
B @ 1.55263.....	2,328.94
C @ 2.25.....	3,375.00
	<u>8,703.94</u>
	<u><u>\$9,428.94</u></u>

COST OF ENDING INVENTORY (400 units  $\frac{1}{2}$ C):

Cost in Department A @ \$2.00 (400).....	\$ 800.00
B @ 1.55263 (400).....	621.06
C @ 2.25 (400).....	450.00
	<u>\$1,871.06</u>

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# COMPONENTS OF THE REPORT OF FINANCIAL CHANGES

M. A. BINKLEY

**A**N AREA of accounting that is subject to varying interpretations and inconsistencies in reasoning is the statement of source and application of funds used in reporting financial changes. Moreover, little effort has been made to iron out these shortcomings. The fact that this statement has always been relegated to a minor position in accounting use is apparently one reason why those who have worked with it have often been satisfied with their own ideas and have been unaware of or indifferent to the situation that exists. And, in reverse, it may well be that the inadequacy of theory in this area has prevented a wider use of the statement.

In recent years there have been repeated predictions that the funds statement will play a more important role in the future, and such a trend seems to be taking place in current financial reporting. If the statement is destined to greater usage, now is the time to crystallize further the thinking about it.

To illustrate an important difference of concept, the reader is asked the question whether or not funds are involved in a transaction in which a plant is acquired by the issuance of securities without cash or other current assets being transferred. Whatever the reader's answer, it is certain that many individuals would disagree with him. The answer depends on the idea of funds that one has, and in attempting to get support in the literature for his own choice, the reader would find it or not, depending on which author he reads.

The existence of such difference of opinion indicates a need for thought and development. Not only should the concept involved in the word "funds" be clarified,

but the term, if used, should refer to only one meaning instead of several, unless it is to continue a source of confusion.

This matter of terminology is relevant to our consideration because clarity of terms and concepts go hand in hand. The use of the term "funds" in reference to the application of funds statement seems to be more common in the technical literature than in published financial reports. This use in the literature, as in this article, is founded both on convention and on the absence of any other term that is recognized as applying to all the variations of the meanings of the statement.

Except in regard to the funds statement, the word "funds" in general accounting means cash or securities approximating cash. The use in reference to the funds statement, unless it applies to an analysis limited to cash, probably furthers the layman's misconception that accounting statements are based mainly on cash. It seems that "Statement of Financial Changes"<sup>1</sup> would be a title that would explain to the reader of the statement the idea that has been employed in drawing it up.

In analyzing the various concepts underlying the statement, it will be seen that the further one goes away from cash transactions, the hazier becomes the meaning of "funds." With cash there is no difference of opinion as to whether funds are

<sup>1</sup> This is similar to the suggestion of the title, "Statement of Changes in Financial Position," by George D. McCarthy in his article, "Funds Statement Can Make Financial Statements Easier to Understand," *Journal of Accountancy*, April, 1948, p. 309. However, Mr. McCarthy applies it to current financial position, rather than all financing, an aspect that is not clear in his title. The United States Steel Corporation, in its report to stockholders, uses "Summary of Financial Operations."



involved; cash is the starting point of all the different ideas. Some accountants limit funds to cash, some add the other working capital elements, and still others include more. Thus the various concepts of funds may be listed as: (1) cash, (2) net working capital, (3) total assets or purchasing power, and (4) all financing.

The limitation of funds to cash, although perhaps the most correct technical use of the term, appears to be fairly rare in usage. Under this view the statement is virtually an analysis of the cash book with the effects of all non-cash transactions, such as purchases not paid for and sales not collected, eliminated.<sup>2</sup>

Probably the most common interpretation of funds refers to net working capital. Under this idea any transaction that affects current assets or current liabilities is taken as involving the funds, or "liquid capital,"<sup>3</sup> of the enterprise.

The total assets concept of funds is an idea that apparently is uncommon because it has seldom been mentioned in the current literature except by reference to the fact that it exists. However, the concept of purchasing power appears in essence to be roughly the same idea and is at least somewhat more popular.<sup>4</sup> This purchasing power concept is difficult to analyze because the authors who use it do not clearly state the idea but present it by means of examples. "Purchasing power" in this sense does not refer to any changing value of the dollar, but simply means a more inclusive interpretation of funds, one that involves not only working capital but also certain other elements. For example, the acquisition of plant by the issuance of

securities, although not affecting working capital, involves purchasing power, and hence funds under this concept.

Finally, "funds" in the broadest meaning refers to all financial elements. The funds statement then presents an analysis of every change that relates to the balance sheet. This idea differs slightly from the total asset concept, for it includes information regarding changes in equities which do not directly involve assets, as conversion of bonds for stock. This view seems preferable to the author because of its completeness and clarity.

Differences in all these ideas are based on the problem of what should be included beyond cash. Apparently the present funds statement is an outgrowth of a statement of cash receipts and disbursements (or cash sources and applications). Although it has now come to be commonly thought of as a statement of sources and application of net working capital, the concept could be expanded further, even to the extent of including changes in the entire balance sheet. The development of the statement that has taken place seems to mark an evolution toward more inclusiveness, and hence toward revealing more information. Acceptance of the concept of all financial elements would extend this development to a greater degree.

There are indications that many of those professing adherence to the other ideas of funds have unconsciously tended toward this concept of overall financial changes in their treatment of certain transactions. For example, consider the variations under the net working capital concept in the treatment of the acquisition of plant for securities without any cash changing hands.<sup>5</sup> The inclusion of such a transac-

<sup>2</sup> Professor H. T. Scovill expressed a preference for this view in his article, "Application of Funds Made Practical," in the *ACCOUNTING REVIEW*, January, 1944, p. 21.

<sup>3</sup> W. A. Paton, *Advanced Accounting*, p. 678.

<sup>4</sup> Frank H. Straightoff, *Advanced Accounting*, p. 215; Noble, Karrenbrock, and Simons, *Advanced Accounting*, p. 368.

<sup>5</sup> Professor Paton includes it on the funds statement, but recognizes that it might be shown contra. *Op. cit.*, p. 684. On the other hand, William J. Vatter, also adhering to the working capital concept, would omit it from the statement. "A Direct Method for the Preparation of Fund Statements," *Journal of Accountancy*, June, 1946, p. 483.

tion seems to be inconsistent with the meaning of funds as working capital and, along the same line, it seems inconsistent with the special treatment of depreciation in computing the funds derived from profits. The adding back of depreciation to profits conforms to the working capital idea because the outgo of fixed assets by depreciation is not an outgo of a current asset and therefore is unlike most of the other expenses. However, the acquisition of plant for securities involves a fixed asset coming into the business by a route other than through working capital, so it likewise should not be considered as affecting funds if "funds" refers to working capital.

The argument may be advanced that the absence of any effect on current items in the acquisition of plant for securities is relatively unimportant, because the result of the transaction is the same as though cash were received from the security issue and immediately used to pay for the plant. Would it be stretching the analogy in the case of depreciation to say that if circumstances were different (if the plant were being rented and depreciation were covered by the rent) it would affect working capital?

Another situation raises even stronger doubt about reasoning "as if." The issuance of stock dividends is given as a common example of a transaction that does not involve funds, "because it is a book entry." Here the effect is the same as it would be if additional stock were issued for cash and a cash dividend declared. Apparently some of the more common treatments of fund vs. non-fund items are inconsistent with themselves.

Still another argument is that showing the effects of such a transaction as the acquisition of plant reveals more information in the statement. Showing meaningful information is, of course, the objective of accounting, but if "funds" refers

only to cash or only to working capital, it is misleading rather than revealing to show this transaction as affecting funds. Showing the stock dividend would also present more information. Thus the concept as developed seems inadequate for the tests it must meet. If more information is desired, the concept must be modified.

Accountants holding to the working capital view presumably would criticize the inclusion of non-working capital items in the funds statement on the grounds that this would eliminate the distinction between the categories of current assets and other assets. Somewhat inconsistently, many of them would hold that the cash concept creates a fictitious wall around cash. To be sure, a case may be made for the importance of analyzing working capital as expendable or liquid funds, but such an analysis can be included in a more comprehensive statement.

These extensions from pure working capital, i.e., the inclusion of non-working capital transactions and the enlargement to the idea of purchasing power or total assets, seem to be a recognition of the inadequacies of the working capital concept. Perhaps, then, an analysis of changes of all financial elements, in other words, a study of the complete balance sheet, rather than just those in the current categories, is what accountants have been groping for in their use of this statement. Such a statement of financial changes would give fuller disclosure because of its greater completeness; it would be more readily understood because all financing rather than just certain financing would be included; and it would still contain the essential information given in the more common funds statements. In addition, it would eliminate many of the inconsistencies in use which were referred to above.

The application of this idea would not effect so great a change on the statement

as might be thought. Since most business transactions do take the working capital route, the bulk of the information would be the same. Perhaps the greatest change would be the treatment of depreciation in much the same way as other expenses.

This modification would make progress toward the desired refinement of the funds statement which is necessary in order to

reap the fullest benefits that the report has to offer. A statement of financial changes can perform a valuable service of enlightenment, for in explaining the changes of balance sheet items, it undertakes to indicate where the financing comes from and where it goes, a function performed by no other statement.



# ANALYSIS OF SEMI-VARIABLE EXPENSES

JOSEPH GOLIGER

SEMI-VARIABLE EXPENSES cannot be used for budgeting, cost analysis and cost control in their composite form. For these purposes, they have to be broken down into their fixed and variable components. Some of them, as factory supervision for instance, can be analyzed without difficulties from payroll records or from experience, while others are more or less resistant to the ordinary analytical approach. The practice of estimating the size of the fixed and variable parts can yield only approximations and is open to considerable errors. The best and easiest approach is the algebraic method of segregation. It yields much more accurate results than estimating without being more difficult in its application. Heretofore, the method has been used mainly for overall analyses of annual or monthly cost and budget figures with the aid of a formula which discloses the aggregate of the variable components of a given sales-cost relationship. This formula reads:

$$X = \frac{\text{Cost at high volume} - \text{Cost at low volume}}{\text{Sales at high volume} - \text{Sales at low volume}}$$

The formula is excellent and can, with two supplementary formulas, be applied for the segregation of the fixed and variable parts in every semi-variable expense category.

The terms "semi-variable" and "variable" expenses are defined as follows:

1. A semi-variable expense is an expense with a ratio of increase (or decrease) lower than the ratio of the sales volume increase (or decrease) with which it is compared.

2. A variable expense is an expense with a ratio of increase (or decrease) equal to or higher than the ratio of the sales volume increase (or decrease) with which it is compared.

To illustrate:

1. Expense at high volume . . . .	20,000
Expense at low volume . . . .	15,000
Ratio of increase . . . . .	33 1/3%
Sales at high volume . . . . .	500,000
Sales at low volume . . . . .	300,000
Ratio of increase . . . . .	66 2/3%

*The expense is semi-variable.*

2. Expense at high volume . . . .	10,000
Expense at low volume . . . .	5,000
Ratio of increase . . . . .	100%
Sales at high volume . . . . .	300,000
Sales at low volume . . . . .	150,000
Ratio of increase . . . . .	100%

*The expense is variable.*

3. Expense at high volume . . . .	30,000
Expense at low volume . . . .	15,000
Ratio of increase . . . . .	100%
Sales at high volume . . . . .	800,000
Sales at low volume . . . . .	480,000
Ratio of increase . . . . .	66 2/3%

*The expense is variable.*

The method of segregation, which will be presented in the following paragraphs, deals only with the first expense category, the semi-variables, but it can also be applied to prove and disqualify variable expenses which might have been mistakenly considered as semi-variables.

There are three segregation formulas necessary, the first of which has had only limited use. In order to shorten the presentation of the three formulas, the following symbols will be used.

$E$  = any semi-variable expense at high volume  
 $e$  = any semi-variable expense at low volume  
 $S$  = Sales at high volume  
 $s$  = Sales at low volume  
 $V$  = Variable part of expense

$F$  = Fixed part of expense

$R$  = Ratio of variable part to any sales volume.

## SEGREGATION FORMULAE

$$1. R = \frac{E - e}{S - s}$$

$$2. V = R \times S \quad \text{and} \quad V = R \times s$$

$$3. F = E - V \quad \text{and} \quad e - V$$

PROOF

$$E = 10,000 \quad S = 420,000$$

$$e = 8,000 \quad s = 220,000$$

$$\text{Ratios of Increase} \quad .25 \quad .9091$$

$$R = \frac{10,000 - 8,000}{420,000 - 220,000} = \frac{2,000}{200,000} = .01$$

$$V = .01 \times 420,000 = 4,200 \text{ at high volume}$$

$$V = .01 \times 220,000 = 2,200 \text{ at low volume}$$

$$F = 10,000 - 4,200 = 5,800 \text{ at high volume}$$

$$F = 8,000 - 2,200 = 5,800 \text{ at low volume}$$

Since the fixed part ( $F$ ) of the expense is the same at high and low volume, the calculation must be accurate. Taking the example used for illustration of the definition above, the computation would be as follows:

$$E = 20,000 \quad S = 500,000$$

$$e = 15,000 \quad s = 300,000$$

$$\text{Ratio of increase} \quad .333 \quad .667$$

$$R = \frac{20,000 - 15,000}{500,000 - 300,000} = \frac{5,000}{200,000} = .025$$

$$V = .025 \times 500,000 = 12,500 \text{ at high volume}$$

$$V = .025 \times 300,000 = 7,500 \text{ at low volume}$$

$$F = 20,000 - 12,500 = 7,500 \text{ at high volume}$$

$$F = 15,000 - 7,500 = 7,500 \text{ at low volume}$$

$F$  being constant at high and low volume, the segregation must be correct.

As mentioned previously, the formulas can also be applied to prove an expense as fully variable. In this case  $F$  should be 0, while  $V$  should be equal to the total expense. This case would correspond to the first part of the definition of variable ex-

penses which states that the ratio of expense increase is equal to the ratio of increase in sales volume. Here is an example:

$$E = 16,800$$

$$S = 420,000$$

$$e = 15,200$$

$$s = 380,000$$

$$\text{Ratio of increase} \quad .105263 \quad .105263$$

$$R = \frac{16,800 - 15,200}{420,000 - 380,000} = \frac{1,600}{40,000} = .04$$

$$V = .04 \times 420,000 = 16,800 \text{ at high volume}$$

$$V = .04 \times 380,000 = 15,200 \text{ at low volume}$$

$$F = 16,800 - 16,800 = 0 \text{ at high volume}$$

$$F = 15,200 - 15,200 = 0 \text{ at low volume}$$

When the ratio of expense increase is higher than the ratio of sales volume increase (definition of variable expenses), the method of segregation yields inverse and negative answers, thus indicating a disturbance of the equilibrium between variable expenses and sales volume, as the following computation discloses.<sup>1</sup>

$$E = 30,000$$

$$S = 800,000$$

$$e = 15,000$$

$$s = 480,000$$

$$\text{Ratio of increase} \quad 1.000 \quad .667$$

$$R = \frac{30,000 - 15,000}{800,000 - 480,000} = \frac{15,000}{320,000} = .046875$$

$$V = .046875 \times 800,000 = 37,500 \text{ at high volume}$$

$$V = .046875 \times 480,000 = 22,500 \text{ at low volume}$$

$$F = 30,000 - 37,500 = (-7,500) \text{ at high volume}$$

$$F = 15,000 - 22,500 = (-7,500) \text{ at low volume}$$

Now, the variable part of a semi-variable expense cannot be bigger than the total expense, and the fixed part can never be a negative magnitude. The odd answer merely indicates that the expense increase is out of proportion compared with the sales volume increase. On a chart, the expense slope would then be steeper than the

<sup>1</sup> Example number three of the definitions.



sales line, and the excess amount of the variable part over the total expense would be translated into the angle between the two lines.

In such an answer given by the formula procedure lies the proof of an excessively increased variable expense, which will happen when variable expense increases cannot be absorbed by corresponding price adjustments. This should be a danger signal, for, whenever the equilibrium between the movement of a variable expense and the sales volume movement (R) is disturbed, the break-even volume will increase at a formidable pace.

Since the method described is usually used only for the analysis of genuine semi-variable expenses, such extreme cases of variable expense behavior will ordinarily not be subject to its application. However,

the formulae could be used to disclose irregular variable expense increases. In such a case, a new break-even point calculation is advisable to determine the repercussions of such an occurrence.

In the practical application of the segregation method, it will be good to keep in mind that the use of two widely separated volumes will bring out the trends more clearly. If the two volumes chosen for comparison are too close to each other, the picture is liable to be blurred somewhat, although the method will always reach a very close approximation to the reality.

The procedures described have been followed in actual practice; they can be applied easily and quickly and yield the most accurate results possible under practical working conditions.



# THE TEACHERS' CLINIC

S. PAUL GARNER

EDITOR'S NOTE: Many of the experienced teachers, as well as some of the new ones, have developed devices and techniques for the presentation of certain of the knotty aspects of accounting, and it is felt that such suggestions might well be made available to the other members of the teaching profession through *The Teachers' Clinic*. Accordingly, contributions are hereby invited. Please address all correspondence to S. Paul Garner, School of Commerce and Business Administration, University, Alabama.

## TEACHING METHODS IN ACCOUNTING SYSTEMS

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Any student with normal intelligence and aptitude can comprehend the general topics of elementary and advanced accounting and their associated relationships. However, when the student advances to specialized accounting courses, such as cost accounting, accounting system design and installation, and auditing, he often loses perspective and fails to grasp the associated relationships present in the specialized courses. Often a student is half-way through a specialized course before these relationships comprising the complete course are unfurled in fairly clear fashion. If the student is confused on this matter in the classroom, then how much more confused is he going to be when he takes an accounting position in a going concern? While it is true that the student first of all must know the "why of it" in all accounting courses from an academic viewpoint, it is also equally true that he must know the "how to do it" when he obtains a position after graduation. This latter point is particularly true if the student is to make rapid advancement in his chosen work. For example, it is the procedure in cost accounting that confounds the student when he obtains a position in an industrial concern; it is the procedure in auditing and in system design and installation that perplexes the

accountant when he is confronted with his first engagement in either one or the other of these two fields of accounting.

Can the instructor in these specialized courses do anything about this problem of orientating the regular student in the specialized fields of accounting? Can the student be familiarized with how an accounting system is designed and installed? The greater the degree to which these questions can be answered in the affirmative, the better the accounting department of any college or university will have performed its function in preparing its students to fit into the employer's accounting organization. The better the student is orientated in specialized accounting courses while an undergraduate, the shorter need be either his training period or apprenticeship in a going concern.

Then, too, there is always the problem of the adult student in the evening division of the urban universities. The adult student may be an employee with a number of years experience, in either an industrial concern or in a public accounting firm, who finds it necessary to prepare himself for specialized procedure work in systems. This type of student, for example, may be well acquainted with the theory and practice of cost accounting,

but he needs to know as quickly as possible how to grasp the procedures in system design and installation. Again, the public accountant may know the last word about auditing procedure in general, but he is unfamiliar with system design and installation procedures.

The specialized course in accounting system design and installation is often looked upon by the student as rather dull and dry. The student elects the course either because he thinks that he may need the knowledge at some time, or because he has been told by some friend that he should have an understanding of the subject matter for future use. If this course is given without embellishments, the student studies topic after topic on general principles and procedures that relate to no particular business. The sequence of the topics often appear isolated and unrelated. The student often asks: "How can one put together all of these principles and procedures in order to make the accounting system simple and economical to operate, and at the same time provide management with the reports necessary to effect the proper control over the going concern?"

The course in accounting systems can be made to take on vibrant life, and to become interesting to the student by sup-

plementing the usual textbook with a practice set. The accounting system of some medium-size business with which the instructor is thoroughly familiar, should be taken as the basis for developing a system design practice set. The practice set should state the facts that relate to each phase of the accounting system. In connection with each set of facts, there should be a leading set of questions that are pertinent, not only to the particular set of facts, but also to reflect relationships to each of the other phases of the accounting system affected thereby. This feature probably constitutes the most important value in system design practice, namely, trying to make the student see the relation of each feature of the accounting system to the system as a whole.

The steps taken in sequence, in the development of the design of the system practice set, should follow, as nearly as possible, the order in which the chapters of the textbook are assigned. The points to emphasize in the practice set are the suggested steps and their order of sequence the system design study points, and the application of the study points or the method of putting over the "how to do it" in practice. These steps are next presented:

<i>Steps in System Design</i>	<i>Study Points Emphasized</i>	<i>Application of Study Points The "How to Do It"</i>
1. The interview with the appointed company executive.	Method of approach. Obtaining expression of opinion from company representative.	Provide a number of facts which Company executive would relate. Provide a number of questions system designer would ask.
2. The scope, size, and nature of the business.	Importance of the principal types of transactions. Necessity of knowing what is to be accounted for and needed as aid in providing proper balance between and among all phases of the system.	State nature of business with emphasis on character of chief type of transactions. Enumerate specific types of transactions incurred.

*Steps in  
System Design*

*Study Points  
Emphasized*

*Application of Study Points  
The "How to Do It"*

3. The personnel organization.

Need for comprehending responsibilities that exist between and among company executives in order to create and operate internal controls.

List executives from top to bottom, together with their functions. Ask for type of business organization in effect.  
Request responsibilities of executive.

4. The need for mechanical appliances and equipment in operation of system.

Discuss choice of optional types of equipment, their relative advantages, and how forms, records, and reports must be designed in accordance with nature of equipment chosen.

List optional choices of equipment and approximate cost of each item. List potentialities of each piece of equipment.  
Request student to recommend choice giving reasons.

5. The acquisition and assimilation of pertinent data required to design system.

Selection and review of essential facts needed to design system. Proper approach in order to obtain cooperation of and information from company personnel.

Request explanation of approach to company personnel, together with essential qualifications for success in this step.  
Request student to enumerate specific points he would inquire about in order to gather information needed.

6. The arrangement and recording of essential system data.

Assembly and accumulation of essential data, required to design system.

Charts are invaluable aid in summarizing masses of data into small space to obtain proper perspective of system as a whole.  
Require preparation of charts for: accounts and code plan; mechanical appliances; original records; journals; ledgers; supplementary records; reports and statements; adjusting and closing procedures.

7. The general principles followed in design of original records, journals, ledgers, reports and statements.

Importance of carrying the transactions through from their inception to final effect reflected in reports and statements.

Require student to prepare illustrations or design of all forms, records, reports, etc.

8. The application of the general principles in (7) preceding each of the specific accounting procedures required in the operation of the system.

Stress specific relationships of each procedure to all other affected ones.

Require preparation of flow diagram type of charts to disclose the relationships and types of internal controls which exist between and among the different procedures.

9. The testing of the completely designed system.

Emphasize the method of accumulating the transactions, the uses of the recorded data, the internal controls operating to protect the assets and capital invested.

Require the recording of a complete set of monthly trial transactions, postings, trial balance, and preparation of reports and statements.

The practice set plan takes a great deal of the instructor's time. He should, therefore, plan for as many personal interviews as possible with his students on this feature of the system course in order to guide and direct them properly.

If the instructor does not have the time to develop the practice set method, in the design of an accounting system, there is an alternate choice which is also effective. After the course has been underway long enough for the students to acquire some of the general principles of system design, make it a part of the course requirement for each student to conduct a study of the accounting system of some going concern. Let each student make his own contacts with the going concerns in order to obtain permission to make a study and obtain the factual data. This is an invaluable experience to the student in that it breeds con-

fidence in selling himself to the representative of the going concern with which he makes contact. The instructor should approve, in each instance, the specific business chosen by the student, in order to make certain that the business is neither too large nor too small, and also that it will provide the chief features of a well-balanced accounting system. The instructor should prepare an outline for each student to follow with respect to the factual data to be obtained, so that his interview with the contact man of the going concern will be well organized and all-inclusive. The student should be required to prepare a report of his study. The instructor should also select the best reports submitted and have the respective students review them before the class by means of a ten or fifteen minute survey presentation.

## TEACHING ACCOUNTING CONCEPTS TO THE BEGINNING STUDENT

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Most accounting instructors probably would agree that the first major hurdle encountered in the teaching of their subject is the teaching and exposition of the so-called intermediate and supplementary income statement accounts. The writer believes that the following analysis and approach will enable the instructor to explain the analysis of income statement transactions in terms of their effects upon basic asset and equity elements and thus avoid the necessity of explaining "sales revenue" as a suspense account composed of a mixture of proprietorship increases and asset decreases and the necessity of explaining expense as a deduction correcting what would otherwise be an overstated revenue.

Basically, a sale is a two-way trade or exchange of private property. The business enterprise receives new property from

the customer or client and as a *quid-pro-quo* has to give up property in exchange.

Inasmuch as "private property from the standpoint of its financial description is a two-dimensioned institution,"<sup>1</sup> it follows that each segment of this two-way trade or exchange of property is two-dimensioned. When we make reference to a sale or describe it as "a sale of a hat for \$5.00 cash," or a "sale of assorted merchandise for \$3.00 on charge account credit terms," we tend to emphasize the one dimension, the exchange of objective resources or assets. The legal scholar in his elaborate law of sales or the judge in adjudicating disputes about sales transactions and contracts tends to emphasize the other dimension, the property rights of the parties to

<sup>1</sup> W. A. Paton: *Essentials of Accounting*, p. 35.



the sale. This latter point of view can be illustrated with two quotations:

"In giving the vendee title to valuable goods, the vendor acquires a claim which is in itself recognized property."<sup>2</sup>

"In other words, under this view, the title to the goods passed to the consignee on delivery to the carrier, but right to possession in the nature of a vendor's lien remains with the consignor while the goods are in the carrier's possession, and terminates only when the condition is performed and the money paid by the consignee to the carrier, whereupon the title to, and possession of, the money vests in the consignor."<sup>3</sup>

An illustration will clarify the discussion at this point. Let us assume that a business firm makes a sale of finished product for \$33,000; terms, \$20,000 cash and balance in thirty days. Let us assume further that this firm was able to determine that the total assignable cost of the finished product sold was \$32,450 with a resulting profit of \$550 on the sale. Quite typically, four different accounting entries, at different times, would be in order, as follows:

1. Private Property (the in-come flow) Received from Customer			
Cash.....	20,000		
Accounts Receivable.....	13,000		
Revenue.....		\$33,000	
2. Private Property (the out-go flow) Given Up in Exchange			
Expense.....	\$32,450		
Materials.....		\$23,210	
Labor Services.....		7,700	
Supplies.....		880	
Equipment.....		330	
Leased Services of Land and Building.....		330	
3. Resultant Net Effect on Equities, Excess of Revenue over Expense			
Revenue.....	33,000		
Expense.....		\$32,450	
Income.....		550	

#### 4. Assignment and Distribution of Resultant Net Income

Income.....	\$	550
Bonds—Accrued Interest Payable.....		10
Dividends Payable.....		275
Earned Surplus.....	\$	265

Transaction #1, above, attempts to measure and record, at selling price values, the new property received from customers, the *incoming* flow of property resulting from our alleged sale. The effect of this, considered by itself, is *positive* tending to *increase* both assets and equities, the heads and tails of our coins. The debits of \$20,000 and \$13,000 to cash and accounts receivable, respectively, measure the additional assets received. The credit of \$33,000 to sales revenue should represent the measure of the positive force tending to increase equities as a result of this flow of new property from the customer to the vendor.

Furthermore, transaction #2, above, attempts to measure and record, at cost, the property given up and surrendered to the customer, the *out-going* flow of property from the vendor to the vendee. The effect of this, considered by itself, is negative tending to decrease both assets and equities. The credits measure the cost of assets used up in the production and sale of the finished product surrendered in exchange to the customer. The debit of \$32,450 should represent the measure of the negative force operating to decrease equities as a result of this outgoing flow of property from the vendor to the vendee.

In the above two paragraphs the writer is attempting to suggest a vector analysis familiar to students of physics and mathematics as the so-called parallelogram of forces. An illustration may make this clearer. Consider the following example, applicable in navigation.

If a pilot starting from point A should head his plane in the direction AD (T.H.,

<sup>2</sup> W. A. Paton (Ed.): *Accountants' Handbook*, p. 111.

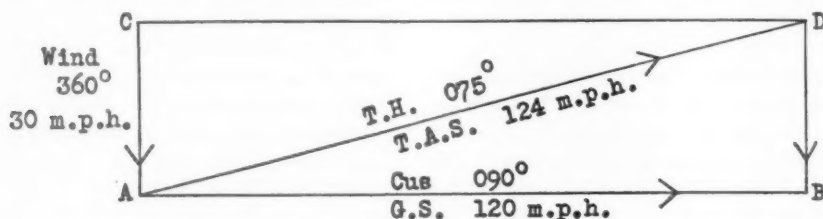
<sup>3</sup> Justice Fellows: *American Ry. Express Co. v. Ready*, 232 Mich. 624, 206 N.W. 344 (1925).

75 degrees) and should drive his motor at the speed of 124 m.p.h., he would land at D, 125 miles distant at the end of one hour, *providing there were no wind* or any other force operating to deflect his course or to impede his progress. Point D would represent his "No wind" position.

By way of analogy, if sales to customers could be had *at no cost*, Transaction #1 would measure the extent to which both total assets and total equities would be increased as a result of this sale. Consequently, the \$33,000 credit to "revenue"

tomers or patrons were made free of charge or if our firm failed in collecting any *quid-pro-quo*. Thus, considered by itself, the debit to "expense" of \$32,450 is a measure of the *negative* "force" exerted by the release and delivery of the product of the enterprise to customers or patrons *tending to decrease* the equities of all parties entitled to participate in profit or loss.

But with both forces operating concurrently, we know that the resultant will be something quite different. Thus in our navigation example, our pilot would find



considered by itself represents the *positive* "force" exerted or released by the receipt of new property from customers or patrons *tending to increase* the equities of all parties entitled to participate in profit or loss.

It would be very rare for pilots to encounter no wind, just as it would be very rare for businesses to be able to make sales at no cost. In the above illustration we have assumed that a wind with a force of 30 m.p.h. is blowing from the north. This would mean that a balloon starting at point A would be blown to a point *due south* of A and 30 miles distant at the end of one hour. That would be the effect of the wind, *considered by itself*, or considered on the assumption that there were no other and counteracting force operating.

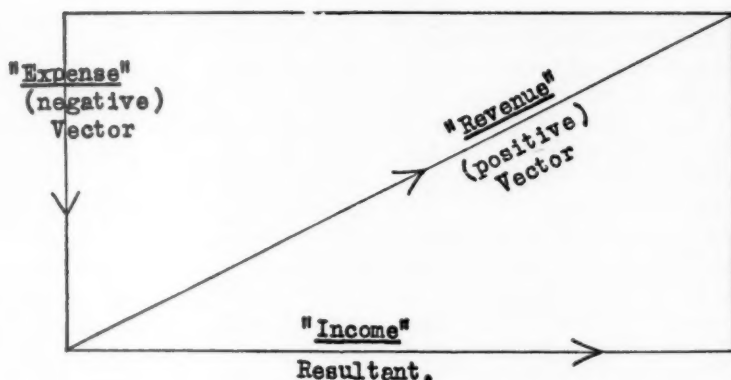
By way of analogy again, transaction #2, would measure the extent to which both total assets and total equities would be decreased if this transfer and delivery of the product of the enterprise to cus-

himself at point B due East from his starting point A and 120 miles distant at the end of one hour. Thus the wind would deflect his direction and slow down his progress but with an effect considerably less than that on a balloon having no motor and no pilot.

Likewise, the resultant of our sales transaction is a net increase in both total assets and total equities of \$550. The credit to "income" of this amount represents the excess of "revenue" over "expense" and thus reflects the net increase in equities resulting from successful operation.

In terms of vector analysis, this can be illustrated by the diagram shown on the next page.

There would be two dimensions measured for each vector, but the credit to the *sales revenue* account, the debit to the *expense* account and the credit to the *income* account respectively represent the equities dimension in each instance.



One further point needs to be emphasized. It should be noted that the revenue credit, the expense debit, and the income credit represent general unassigned equities. That is to say—in sharp distinction and contrast to the debits and credits to specific asset accounts in transactions #1 and #2—no specific equities can be identified as having been increased or decreased in the first three transactions. Rather, the “revenue” credit, the “expense” debit, and the “income” credit represent and reflect cross-sections of the equities of *all* parties who are entitled to share in profit or loss. They are unassigned equity elements. The

assignment or distribution to specific and identifiable equities is deferred to transaction #4 and is done there in terms of net income (or net loss).

Incidentally and in passing, it should be noted that the interpretations of “revenue,” “expense,” and “income,” as given above, are all expressed in similar and consistent terms. Moreover, these interpretations have the effect of reducing all income sheet items to similar and consistent elements as either positive equity “forces” negative equity “forces,” or the “resultant” net increase or net decrease in equities as the result of operations.

## USING PRACTICAL ACCOUNTING EXPERIENCE IN TEACHING

R. K. MAUTZ

*University of Illinois*

Some actual accounting experience is generally conceded to be a desirable part of a background for an instructor of accounting. This implies, of course, that it is an aid to his teaching and so is of benefit to his students. If adequate, accounting experience should yield the following benefits to an accounting instructor: (1) It should give him a wealth of first-hand information as to what current accounting

practice is and why, which in turn should (a) give him an appreciation of the difficulties faced by practicing accountants in their efforts to apply what they consider to be good accounting theory and practice, (b) give him a basis for constructively criticizing both current practice and the textbooks he is assigned to teach, and (c) provide him with a store of examples, illustrations, and experiences covering a

variety of accounting problems. (2) It should give him the confidence and poise of a man dealing with a subject he has mastered in practice as well as theory. (3) It should give him added prestige with his students, an important factor in establishing a student-teacher relationship conducive to effective teaching.

Once these benefits have been obtained through experience, how is the instructor to use them to the best advantages in his classroom instruction? First of all, he must realize that accounting experience is not an unmixed blessing. There appears to be a tendency on the part of many practitioners in teaching to feel that their personal experiences and accomplishments are of more importance to the student than any explanation of the textbook. This tendency is frequently more apparent than real. Actually the practitioner may have neither the ability nor the inclination to be a teacher. Or perhaps, too far removed from his own student days, he fails to find anything difficult or requiring explanation in the text assignment. In any case, it is certainly easy to fall into a habit of recounting experiences or citing cases in preference to laborious lesson preparation and the effort required to conduct a well organized blackboard lecture. An instructor with no accounting experience conscientiously striving to assist his students to understand the procedures and reasoning necessary to master the problems of the course is undoubtedly filling the role of a teacher far more effectively than some garrulous ex-practitioner who enjoys rambling on and on about his own irrelevant exploits and experiences.

On the other hand, accountancy is and should be a practical course. The knowledge acquired from undergraduate courses should have practical value for a student. Courses should be aimed at equipping students with such a knowledge of accounting procedures and practices as will

be useful to them in their post-collegiate careers. But college courses in accounting are not readily made practical and frequently fail to prepare the student for practical application of his learning. Because accounting is a difficult and complex subject, most textbooks, and instructors as well, follow the procedure of explaining each practice and procedure on a step by step basis. While advantageous from a teaching standpoint, this method is likely to result in problems and examples which are designed to illustrate, step by step, the several points involved. Problems, as teaching material, then tend to oversimplify in order to stress the point at issue. They illustrate a specific point but in doing so they consider it as if it existed in a vacuum. They omit all the little complications and variations of situation and personnel which make practical application of the theory or procedure difficult. It must be admitted that in many accountancy courses such treatment is the best way to present the difficult technical points which must be covered. In order to focus the attention of the student upon the question at issue, all irrelevant material must be disregarded. But although this may be unavoidable, the fact must be recognized that the student trained to work only textbook problems and to follow classroom examples is not ready for practical accounting work.

For example, textbooks teach that a well kept perpetual inventory record supported by annual or more frequent physical inventories is the proper method of accounting for inventories and to illustrate the point they give as an example some organization or department with a few uniform items of product which lend themselves to the type of inventory record illustrated. No one can justifiably differ with the theory of perpetual inventory records supported by physical counts and when applied to such a simple case the

student feels that he has mastered the subject of inventory accounting with no great effort. Like many procedures, it is logical and simple when considered in an ideal situation. But the product, raw materials, and manufacturing processes, not to mention personnel, of many concerns do not lend themselves so readily to such a procedure. A concern manufacturing kitchen equipment on special order for hotels, restaurants, and institutions is considerably different from the textbook illustration of a company having only a few standard items of product and supplies. It is not so easy to work out a perpetual inventory record supported by physical counts which will be neither too cumbersome nor too costly for such a concern. The inventory accounting for a printing establishment, a packing house, or a laboratory may present other special problems not brought to the student's attention by standard textbook treatment of the subject. To leave a student with nothing more than what he can acquire from the text generally is not sufficiently preparation for practice.

A wise teacher with a background in accounting experience can do much to help his students pass more easily from classroom work to actual practice. After teaching the material as presented in the text, he can use a few carefully selected examples of actual conditions to illustrate how that textbook problem might appear in practice and what modifications of the textbook procedure might be necessary in order to handle each situation expeditiously.

If the instructor can first teach the textbook method of handling the given problem he has given his students some help. But after so doing he can and should go further. He should point out the necessity for modifying ideal procedures to fit actual situations in such a way that the student is at least aware of the problems involved in applying textbook methods to practice.

And if through his examples and illustrations a teacher can develop in his students an understanding that all accounting techniques must be flexible because of their wide application and, by always considering the textbook method in relation to a wide variety of situations assist him to develop such flexibility in his own thinking, the teacher has rendered his students a real service which will be of benefit in all their accounting work.

Inventory accounting is not the only possible example of the deficiencies of textbook presentation. The example could be multiplied many times in any accounting course. There is a popular misconception that only teachers of auditing need practical experience and that even they can get by without it. Unless there is absolutely no alternative, it seems inconceivable that a man with no auditing experience should teach others how to audit. Likewise it is unfortunate that experience is not a standard requirement for all teachers of any advanced accounting course.

A word of caution to the teacher of elementary accounting courses appears in order. In these courses especially, the instructor should be wary of overwhelming his students with examples beyond their abilities. To a trained accountant, double entry bookkeeping is a simple and logical procedure; to a beginning student it is frequently a bewildering confusion of strange terms and symbols with classifications and distinctions which appear completely arbitrary and unreasonable. It is no small task to lead a group of new students to an understanding and appreciation of bookkeeping procedures. For best results in early courses the teaching technique adopted should be one that closely supports the textbook. It is unfair to the elementary student to confuse him with more than one approach or with difficult examples. The greatest service the teacher



can render is to help the student understand his text and to follow it along to a sound understanding of the subject. Because class time alone is not sufficient to teach the class accounting, the members have textbooks to take with them to study after class hours. A student is entitled to rely upon his text as giving him the proper methods. Although the teacher may disagree with the approach adopted by the text he should feel it his duty to teach that approach to the best of his ability. His role is first to discover what difficulties students have in understanding the text and then to devote class time to clearing up such difficulties. Briefly, he should "teach the book." Such examples and illustrations as he gives from his experience should be selected to impress the student with the fact that what he is now learning, although not exactly the way his brother keeps books at the store, is still a proper and accepted method of learning a complex subject. It is not until a student is well along in understanding bookkeeping procedures

that a practical example has much significance.

To summarize: (1) every teacher of accounting should make a sincere effort to provide himself with a background of practical experience in accounting; (2) experience in accounting alone is not sufficient to make a good teacher and the teacher with such experience should be constantly self-critical of any tendency to substitute personal anecdotes for proper classroom instruction; (3) instructors in elementary accounting courses should concentrate on teaching the text, utilizing practical experience only where necessary to hold the interest of the class and answer direct questions; (4) instructors in advanced accounting courses should be alert to every opportunity to point out the necessity of understanding textbook methods so thoroughly as to be able to modify them when required by the exigencies of practice and thereby equip their students with the kind of knowledge they can apply effectively in practice.



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# PROFESSIONAL EXAMINATIONS

## A Department for Students of Accounting

HENRY T. CHAMBERLAIN

THE FOLLOWING problems were prepared by the Board of Examiners of the American Institute of Accountants and were presented as the first half of the May, 1949 C.P.A. Examination in accounting practice. The candidates were required to solve all problems in four and a half hours.

A suggested time schedule is given below:

Problem 1	45 minutes
Problem 2	75 minutes
Problem 3	75 minutes
Problem 4	30 minutes

### No. 1

The following condensed balance-sheets of Company A, Company B and Company C were prepared as of December 31, 1948:

Item	Company A	Company B	Company C
Current assets.....	\$1,234,567	\$ 731,282	\$340,274
Investments:			
80% of B stock, at cost.....	1,400,000	—	—
75% of C stock, at cost.....	—	540,200	—
Fixed assets—net.....	3,030,933	1,322,607	514,987
Total.....	\$5,665,500	\$2,594,089	\$855,261
Current liabilities.....	\$ 400,500	\$ 275,389	\$ 93,261
Bonds payable.....	—	750,000	—
Surplus reserve for redemption of bonds.....	—	250,000	—
Common stock, \$100 par value.....	3,000,000	1,000,000	600,000
Capital surplus.....	710,300	—	45,600
Earned surplus.....	1,554,700	318,700	116,400
Total.....	\$5,665,500	\$2,594,089	\$855,261

The stock of Company C was acquired by Company B on January 31, 1947. Since that date Company C has had total earnings of \$28,400 and paid cash dividends of \$40,000. Company B has credited all dividends received to its income account.

Company A acquired the stock of Company B on December 31, 1948.

You are to prepare the journal entries necessary for the preparation of a consolidated balance-sheet of Company A and subsidiaries as of the close of business December 31, 1948. Show all supporting computations in good form.

### No. 2

The Robert Sherburn Company issued \$3,000,000 of 4% first-mortgage bonds on September 30, 1940, at 96 and accrued interest. The bonds were dated June 30, 1940; interest payable semi-annually; redeemable after June 30, 1945 and to June 30, 1947 at 104, and thereafter until maturity at 102; and convertible into \$100 par value common stock as follows;

Until June 30, 1945, at the rate of 6 shares for each \$1,000 of bonds.

From July 1, 1945 to June 30, 1948, at the rate of 5 shares for each \$1,000 of bonds.

After June 30, 1948, at the rate of 4 shares for each \$1,000 of bonds.

Expenses of issue were \$6,360 which is to be combined with the premium or discount, and the total is to be amortized over the life of the bonds from date of issue. The bonds mature in ten years from their date. The company adjusts its books monthly and closes as of December 31 each year.

The following transactions occur in connection with the bonds:

- (a) July 1, 1946—\$500,000 of bonds were converted into stock.
- (b) December 30, 1947—\$500,000 face amount of bonds were reacquired by purchase on the market at 99½ and accrued interest. These were immediately retired.
- (c) June 30, 1948—The remaining bonds were called for redemption. For purpose of obtaining funds for redemption and business expansion, a \$4,000,000 issue of 2½% bonds were sold at 98¾. These bonds were dated June 30, 1948 and were due in 20 years.

You are to prepare in journal form, the entries necessary for the company in connection with the above transactions, including monthly adjustments where appropriate, as of each of the following dates:

- (1) September 30, 1940.
- (2) December 31, 1940.
- (3) July 1, 1946.
- (4) December 30, 1947.
- (5) June 30, 1948.

### No. 3

The Modern Restaurant, an individual proprietorship, keeps no accounting records except a check book. You are engaged to prepare financial statements for the month of January, 1949, reflecting the operating results and financial position as completely as possible. However, for the purpose of this problem, a complete worksheet may be submitted in lieu of financial statements if appropriate columns are provided for income and expense, capital account and balance-sheet.

Your analysis of the check book reveals the following:

Balance—January 1, 1949.....		\$1,016.52
Receipts:		
Meals.....	\$4,112.30	
Catering services.....	190.00	
Candy, tobacco, etc.....	123.45	
Miscellaneous.....	8.25	4,434.00
		<u>\$5,450.52</u>
Disbursements:		
Employees salaries (less income tax withheld amounting to \$81, and federal old age benefit tax).....	\$ 909.00	
Food, tobacco, candy, etc.....	2,847.50	
Rent.....	125.00	
Gas, electricity and water.....	106.00	
Laundry.....	45.50	
Tables and chairs.....	350.00	
Printing.....	23.25	
Owner's salary.....	250.00	
Annual license.....	100.00	
Social security taxes (O.A.B. and unemployment).....	117.00	
Income tax withheld.....	232.50	5,105.75
		<u>\$ 344.77</u>
Balance—January 31, 1949.....		

Your reconciliation of the bank account as of January 31, 1949 shows:

Balance per bank.....		\$ 625.77
Deduct—outstanding checks.....	\$ 271.00	
Error occurring prior to Jan. 1949.....	18.00	289.00
		<u>\$ 336.77</u>
Add—bank service charges:		
For December, 1948.....	\$ 4.08	
For January, 1949.....	3.92	8.00
		<u>\$ 344.77</u>
Balance per books.....		

The balance-sheet which your client had as of December 31, 1948 was as follows:

<i>Assets</i>		
Cash.....		\$1,016.52
Furniture & Fixtures.....	\$2,025.00	
Less—reserve for depreciation.....	202.50	1,822.50
		<u>\$2,839.02</u>
<i>Liabilities</i>		
Accounts payable—food purchases.....	\$ 510.25	
Accrued 1948 personal property taxes—estimated.....	24.00	
Accrued 1948 O.A.B. and unemployment taxes.....	117.00	
Income taxes withheld.....	232.50	
Accrued 1948 annual license.....	100.00	
Proprietor's capital.....	1,855.27	
		<u>\$2,839.02</u>

Your investigation reveals that accounts payable should have been \$81.50 larger than stated on December 31, 1948, and that as of January 31, 1949, they amount to \$703.50. You also discover that as of January 31, 1949, there is a receivable for catering service amounting to \$75. There is an inventory of tobacco and candy at January 31, 1949 of \$130. The proprietor has no record of the inventory as of December 31, 1948, but is of the opinion that it was about \$75. He expects to take monthly inventory hereafter.

You find that the business was opened on January 1, 1948, and that all of the December 31, 1948 balance of furniture and fixtures was purchased at that time.

#### No. 4

The following questions all deal with federal income-tax regulations. *You are to write the sub-numbers in a column and opposite each number you are to give the answer. You need not state the question, nor need you furnish any supporting computations.*

- a. Jones owns and operates a small business as an individual proprietor. During the taxable year he had the following transactions as to each of which you are to state (a) the amount of recognized gain or loss, and (b) the tax basis of the new asset:
  - (1) He exchanged a machine having an adjusted basis of \$2,000 for a similar machine worth \$1,500 and received \$300 in cash.
  - (2) He exchanged a pleasure car for which he had paid \$1,050 and gave \$1,200 cash for a new pleasure car listed at \$1,800. The old car had a cash sale value of \$900 at the time of the exchange.
  - (3) He exchanged machinery having an adjusted basis of \$2,500 and a fair market value of \$3,500 for a similar machine having a fair market value of \$3,500.

- (4) He had a machine destroyed by fire. He collected \$7,000 insurance and immediately purchased a similar machine for \$8,000. The machine destroyed had an adjusted basis of \$6,500.
- (5) He sold for \$3,000 a machine which had an adjusted basis of \$5,000 and immediately purchased a similar machine, using the proceeds of the sale and \$5,000 additional cash.
- b. *You are to answer the parts of this question by the word "yes" or the word "no." Grade will be based on the number of correct answers. Are the following items generally deductible:*
- (1) Fee paid to an employment agency to obtain a position?
  - (2) A contribution made to a needy family in your neighborhood?
  - (3) Taxes paid on personal property not used in your business?
  - (4) Taxes on income levied by a state?
  - (5) Interest paid on a mortgage on your residence?
  - (6) Fee paid to take the CPA examination?
  - (7) Expenses incurred by a candidate for election to public office?
  - (8) Organization expenses of a corporation?
  - (9) Dues paid to a labor union for carrying on the union's labor activities?
  - (10) Old age benefit tax withheld from your pay by your employer?

*Solution to Problem 1*

	(1)		
Earned surplus—Co. B.....	\$ 8,700.00		
Investment in Company C.....		\$ 8,700.00	
To correct earned surplus and investment account for distribution of acquisition surplus:			
Dividend.....	\$40,000.00		
Earnings since acquisition.....	28,400.00		
	<u>\$11,600.00</u>		
Distribution of acquisition surplus.....			
Co. B's share (75% of \$11,600.00).....	<u>\$ 8,700.00</u>		
	(2)		
Capital stock—Co. C.....	\$450,000.00		
Capital surplus—Co. C.....	34,200.00		
Earned surplus—Co. C.....	87,300.00		
Investment in Co. C.....		\$ 571,500.00	
To eliminate 75% of the December 31, 1948 book value of Company C			
	(3)		
Investment in Co. C.....	\$ 40,000.00		
Consolidation surplus.....		\$ 40,000.00	
To set up the excess of the book value at date of acquisition of Company C stock over the cost thereof as consolidation surplus.			
	(4)		
Capital stock—Co. B.....	\$800,000.00		
Earned surplus—Co. B.....	248,000.00		
Surplus reserve for redemption of bonds.....	200,000.00		
Investment in Co. B.....		\$1,248,000.00	
To eliminate 80% of the adjusted December 31, 1948 book value of Company B.			
	(5)		
Goodwill.....	\$152,000.00		
Investment in Company B.....		\$ 152,000.00	
To set up as goodwill the excess of the cost of the investment in Company B over the adjusted book value of the stock at December 31, 1948.			



## Solution to Problem 2

September 30, 1940

Cash.....	\$2,903,640.00	
Bond discount and expense.....	126,360.00	
4% first mortgage bonds.....		\$3,000,000.00
Accrued interest payable.....		30,000.00
To record sale of bonds at 96 and accrued interest. Expenses of issue, \$6,360.00		

December 31, 1940

Interest expense.....	\$ 11,080.00	
Accrued interest payable.....		10,000.00
Bond discount and expense.....		1,080.00
To record accrued interest for December and the amortization of discount on bonds (1/117 of \$126,360.00)		
Accrued interest payable.....	\$ 60,000.00	
Cash.....		60,000.00
To record payment of semi-annual bond interest.		

July 1, 1946

4% first mortgage bonds.....	\$ 500,000.00	
Bond discount and expense.....		8,640.00
Common stock.....		250,000.00
Paid-in surplus.....		241,360.00
To record conversion of \$500,000.00 first mortgage bonds to 2500 shares of \$100.00 par value common stock. The unamortized bond discount written off is computed as follows:		
Original discount ( $\frac{1}{4}$ of \$126,360.00).....	\$21,060.00	
Discount amortized (69/117).....	12,420.00	
Unamortized discount.....	<u>\$ 8,640.00</u>	

December 30, 1947

4% first mortgage bonds.....	\$ 500,000.00	
Accrued interest payable.....	9,944.45	
Loss on retirement of bonds.....	1,650.00	
Bond discount and expense.....		\$ 5,400.00
Cash.....		506,194.45
To record retirement of \$500,000.00 first mortgage bonds. The credit to bond discount and expense is for the unamortized portion of the discount and expense—30 months at \$180.00 per month.		

June 30, 1948

4% first mortgage bonds.....	\$2,000,000.00	
Bond redemption premium.....	40,000.00	
Cash.....		\$2,040,000.00
To record redemption of \$2,000,000.00 of bonds at 102.		
Interest expense.....	\$ 7,386.67	
Bond discount and expense.....		\$ 720.00
Accrued interest payable.....		6,666.67
To record accrued interest and discount amortization for the month of June, 1948. Discount amortization is 1/117 of ( $\frac{1}{4}$ of \$126,360.00)		
Surplus.....	\$ 57,280.00	
Bond discount and expense.....		\$ 17,280.00
Bond redemption premium.....		40,000.00
To write off the unamortized discount (24 months at \$720.00 per month) and to charge the redemption premium to surplus		
Accrued interest payable.....	\$ 40,000.00	
Cash.....		\$ 40,000.00
To record payment of semi-annual bond interest.		
Cash.....	\$3,950,000.00	
Bond discount.....	50,000.00	
2 $\frac{1}{2}$ % bonds.....		\$4,000,000.00
To record sale of 20 year 2 $\frac{1}{2}$ % bonds at 98 $\frac{1}{2}$ .		

## Solution to Problem 3

THE MODERN RESTAURANT  
WORKING PAPER

January 1, 1949 to January 31, 1949

	Balance Sheet (per books) Dec. 31, 1948	Adjustments	Adjusted Balance Sheet Dec. 31, 1948	Transactions	Expense	Income	Assets	Liabilities
				Dr.	Cr.			
Cash.....	\$1,016.52	(3) \$13.92	\$1,030.44	(4) \$4,434.00	(5) \$5,105.75 (12) 3.92		\$ 354.77	
Furniture and Fixtures.....	2,025.00	(2) 75.00	2,025.00	(5) 350.00			2,375.00	
Inventory.....			75.00	(11) 55.00			130.00	
Accounts Receivable.....				(4) 75.00			75.00	
	<u>\$3,041.52</u>		<u>\$3,130.44</u>					
Reserve for depreciation.....	\$ 202.50		\$ 202.50		(9) 19.79			\$ 222.29
Accounts payable—food purchases.....	510.25	(1) *81.50	591.75		(8) 111.75			703.50
Accrued personal property taxes, 1948.....	24.00		24.00		(13) 2.00			26.00
Accrued 1948 O.A.B. and unemployment tax.....	117.00		117.00	(5) 117.00	(7) 40.00			40.00
Income taxes withheld.....	232.50		232.50	(5) 232.50	(6) 81.00			81.00
O.A.B. taxes withheld.....				(5) 10.00	(6) 10.00			10.00
Accrued 1948 O.A.B. license.....	100.00	(2) *75.00	100.00	(5) 100.00	(10) 8.33			8.33
Proprietor's Capital.....	1,855.27	(1) 81.50 (3) *13.92	1,862.69					1,862.69
	<u>\$3,041.52</u>		<u>\$3,130.44</u>					
Sales:								
Meals.....				(4) \$4,112.30		\$4,112.30		
Catering services.....				(4) 265.00		265.00		
Candy, tobacco, etc.....				(4) 123.45		123.45		
Miscellaneous.....				(4) 8.25		8.25		
Employees salaries.....						\$1,000.00		
Cost of food, tobacco and candy sold.....				(6) \$ 91.00		2,904.25		
Rent.....				(5) 900.00		125.00		
Gas, electricity and water.....				(8) 111.75		106.00		
Laundry.....				(5) 125.00		45.50		
Printing.....				(5) 106.00		23.25		
Owner's salary.....				(5) 45.50		250.00		
Depreciation expense.....				(5) 23.25		8.33		
Social security taxes.....				(5) 250.00		19.79		
Depreciation on furniture and fixtures.....				(1) 8.33		3.92		
Bank service charges.....				(7) 40.00		2.00		
Personal property taxes.....				(9) 19.79				
				(12) 3.92				
				(13) 2.00				
						\$4,528.04	\$ 19.04	
Net Loss, January, 1949.....						\$4,509.00		
						\$ 19.04		
						<u>\$4,528.04</u>	<u>\$2,953.91</u>	

\* Credit.

## Key to Transactions and Adjustments

- (1) To adjust December 31, 1948 balance of accounts payable.  
 (2) To set up estimated inventory at December 31, 1948.  
 (3) To adjust cash balance at December 31, 1948:

	Per Books		Per Bank
	December 31, 1948	January 31, 1949	January 31, 1949
Balance.....	\$1,016.52	\$344.77	\$625.77
Add error which occurred prior to January, 1949	18.00	18.00	
	\$1,034.52	\$362.77	\$625.77
Less: Outstanding checks			271.00
Bank service charges.....	4.08	8.00	
Adjusted balances.....	\$1,030.44	\$354.77	\$354.77

- (4) To record cash receipts for January, 1949.  
 (5) To record cash disbursements for January, 1949.  
 (6) To record income and social security taxes withheld from employees.  
 (7) To record employers social security tax.  
 (8) To adjust accounts payable at January 31, 1948.  
 (9) To record depreciation for one month at the rate of 10% per annum.  
 (10) To record accrued annual license fee.  
 (11) To set up ending inventory of tobacco and candy.  
 (12) To adjust cash account for bank service charges.  
 (13) To accrue personal property taxes for one month.

## Solution to Problem 4

- (a) (1) No gain or loss is recognized.

Tax basis of new asset—\$1,700.

No gain or loss is recognized upon the exchange of property held for productive use in trade or business, or for investment, solely for property or a like kind to be held either for productive use in business or for investment.

Adjusted basis for machine sold.....	\$2,000
Value of machine received.....	\$1,500
Cash received.....	300
	<u>1,800</u>

Loss not recognized..... \$ 200

The adjusted tax basis of the new machine is the same basis as the old machine less the cash received or \$1,700. (\$2,000 less \$300.)

- (2) No gain or loss is recognized

Tax basis of new asset—\$2,100.

The pleasure car does not come within the class of property which falls within the "like kind" rule. Therefore, gain would be recognized; however the transaction results in a loss which is a personal loss and is not deductible.

Cash value of old car.....	\$ 900.00
Cash payment.....	1,200.00

Basis of new car..... \$2,100.00

- (3) No gain or loss is recognized.

Tax basis of new asset—\$2,500.

This is a "like kind" exchange, therefore, no gain or loss is recognized and the basis of the old machine becomes the basis of the new machine.

- (4) No gain or loss is recognized.

Tax basis of new asset—\$7,500.

An involuntary conversion is treated as an exchange of the property converted for the property acquired upon conversion.

Cost of new machine.....	\$8,000
Insurance proceeds.....	7,000

Additional cash used.....	\$1,000
Basis of old machine.....	6,500

Basis of new machine..... \$7,500

- (5) Loss of \$2,000 is deductible in full as a loss from the sale or exchange of property other than a capital asset.

Tax basis of new asset—\$8,000

This was an outright sale and a subsequent purchase, that is, two separate transactions.

Recovered from sale of old machine.....	\$3,000
Additional cash paid.....	5,000

Basis of new machine..... \$8,000

- (b) (1) Yes (2) No (3) Yes (4) Yes (5) Yes (6) No (7) No (8) No (9) Yes (10) No

# ASSOCIATION NOTES

E. BURL AUSTIN

## CANADA

*Queens University (Kingston, Ontario):*

J. E. SMYTH has assumed the editorship of the students department in the "Canadian Chartered Accountant," formerly held by R. G. H. SMAILES.

## PHILIPPINE ISLANDS

*Far Eastern University:*

Two members of the association, both undergraduates of the Far Eastern University, were among the top ten candidates on the December CPA examination given by the Philippine Board of Accountancy. They are: RENATO L. PARAS, who placed first, and LAURA G. HABALUYAS, who placed tenth.

## ALABAMA

*University of Alabama:*

New appointments include THOMAS HUMBLE as associate professor, RICHARD BREWER as assistant professor, and JOHN P. NOLAND as instructor.

A chapter of Beta Alpha Psi was installed in December, 1948, with A. J. PENZ as permanent vice-president.

The department of accounting sponsored a one-day Federal Tax Clinic at the University with the Alabama Society of CPA's participating.

WILLIAM WHITNEY addressed the Birmingham chapter of NACA on budgeting. WHITNEY is in charge of internship placement of upperclassmen.

## FLORIDA

*University of Florida:*

NED H. SCOTT has been appointed instructor in accounting. WILLIAM F. MOSHIER and W. DAVIS PARKER were successful candidates at the CPA examination held in November.

## ILLINOIS

*International Accountants Society, Incorporated:*

Newly elected as acting president is DEXTER S. KIMBALL to succeed JOHN T. MADDEN, deceased. THOMAS W. LELAND has been appointed to succeed MADDEN as a member of the Executive Educational Committee.

## KANSAS

*Kansas State College:*

Recent promotions include: GENE MOUNT to instructor, W. J. CLARK to associate professor,

and T. O. DODGE and MERLE GUGLER to assistant professor. T. D. LETBETTER has resigned to go to Texas A. and M. College.

## LOUISIANA

*Louisiana Polytechnic Institute:*

EARL BENNETT addressed the Southwestern Social Science Association in Fort Worth on accounting for small business.

Louisiana Polytechnic Institute was host in October to the First Annual Louisiana Accounting Conference. Noted speakers from all over the United States participated in a program which had three themes: industrial accounting and income taxes, education and training of accountants, and accounting standards.

*Louisiana State University:*

GEORGE A. GUSTAFSON, recently-appointed instructor in accounting, addressed the Lake Charles chapter of NACA in April on the subject of consistency versus conservatism in accounting.

*Loyola University:*

W. P. CARR addressed the Southwestern Social Science Association in Fort Worth on the break-even point.

## MASSACHUSETTS

*Boston College:*

FRANCIS G. LEE was recently granted his CPA certificate. He holds certificates from Connecticut and New Jersey also.

JOHN F. BYRNES, formerly in the department of accounting, is now head of the department of industrial management.

## MISSISSIPPI

*Mississippi State College:*

W. W. LITTLEJOHN has been appointed editor of the quarterly publication of the Mississippi Society of CPA's. E. C. BROWN was appointed associate editor.

## MISSOURI

*University of Missouri:*

Newly appointed instructors are RALPH S. BROWN, CARL DENNLER, JR., JOSEPH A. SILVOSO, TRUMAN L. SLOAN, LYLE R. TRUEBLOOD, and THOMAS A. YANCEY.

R. D. M. BAUER addressed the St. Louis chap-

ter of the Institute of Internal Auditors on the subject "A Chapter on Internal Auditing."

NEW MEXICO

*University of New Mexico:*

JAMES HARMMEYER addressed the Southwestern Social Science Association in Fort Worth on the subject "What Shall We Teach in Intermediate Accounting."

NEW YORK

*Wells College:*

RAYMOND DE ROOVER has been awarded a Guggenheim Fellowship to do research in Europe on the origins of capitalism and business organizations in the middle ages. He plans to spend a year in Italy and Belgium.

OKLAHOMA

*Oklahoma A. and M. College:*

C. L. McCAMMON addressed the Southwestern Social Science Association in Fort Worth on some accounting applications of IBM equipment.

*Tulsa University:*

ALLEN T. STEELE addressed the Southwestern Social Science Association on investigations concerning the funds statement. PAUL J. GRABER addressed the First Annual Louisiana Accounting Conference on the subject "Accounting Concepts and Standards Underlying Corporate Finance Statements."

The University was host in April to the Third Annual Conference of Accountants, sponsored jointly with the Oklahoma Society of CPA's, the Oklahoma Society of PA's, NACA, Institute of Internal Auditors, and the Petroleum Accountants Society of Oklahoma. The general theme of the Conference was reducing the cost of accounting. Speakers were outstanding men in the profession from all parts of the country.

OHIO

*Ohio State University:*

JACOB B. TAYLOR has been made vice-president and business manager of the University. HERMANN C. MILLER and RUSSELL WILCOX have been elected associate members of the Controllers Institute of America.

GEORGE W. ECKELBERRY is chairman of the Ohio Society of CPA's Committee on Cooperation with the Bar Association. W. B. JENCKS is chairman of the Society's Editorial and Publications Committee. JAMES R. MCCOY is a member of the Society's Committee on Accounting Procedure, and W. J. FLEIG is a member of the Society's Committee on Accounting Education.

HERMANN C. MILLER is Director of Publications of the Columbus chapter of NACA.

OREGON

*Oregon State College:*

RALPH L. BOYD has been appointed associate professor. WILLIS G. PAGEL and DONOVAN D. MACPHERSON have been appointed instructors. Recent resignations include JOHN E. HUNDERUP, WILLIAM M. ULRICH, and IRVING K. CHRISTENSEN.

RALPH L. BOYD addressed the Portland Control of the Controllers Institute of America on the subject of budgetary control procedure.

TEXAS

*A. and M. College of Texas:*

R. M. STEVENSON received his CPA certificate after passing the November examination.

*Southern Methodist University:*

ZEB FREEMAN recently addressed the Southwestern Social Science Association meeting in Fort Worth on a uniform plan for teaching elementary accounting.

*Texas Technological College:*

HASKELL TAYLOR is acting dean of business administration.

REGINALD RUSHING is chairman of the Lubbock chapter of the Texas Society of CPA's. RUSHING addressed the Southwestern Social Science Association meeting in Fort Worth in April on the subject of corporate reorganizations under Chapter X of the Bankruptcy Act.

*University of Texas:*

FRANK D. GRAYDON addressed the Southwestern Social Science Association in Fort Worth on the teaching of accounting procedures.



# BOOK REVIEWS

CHARLES J. GAA

*Fiftieth Anniversary, 1898-1948.* Lybrand, Ross Bros. & Montgomery. (Philadelphia: privately printed, 1949. Pp. 168).

This little volume outlines the history of the firm for the information of the partners and their staff associates. But readers outside of the personal relationship can see in it an epitome of the growth of American professional accounting, a revealing sample of typical organization spirit and accomplishment.

A layman would no doubt expect a book of this kind to have chapters about the professional activities of the firm. This expectation is fulfilled by brief descriptions of half a dozen of the firm's unusual engagements and a chapter dealing with committee and leadership activities within state and national professional societies.

But these are not the most significant chapters. Professional service obviously makes up most of professional life; and educational activities would seem secondary at best, as they are in point of man hours spent, of course. Yet the sections of the book which show that a steady flow of technical literature came from these men, and that they maintained a continuing pressure toward improving the educational preparation of accountants, seem to the reviewer to be of high significance. For the facts and attitudes which these sections present do a great deal to demonstrate, by this sample, that public accountants have long been keenly aware of the duty they owe to their profession as a profession, a duty which is of higher social importance than their own individual fee-earning activities. The layman might not expect this consciousness of an educational obligation (to pass on understanding and to help improve knowledge for the future) to reveal itself so clearly in so young a profession.

Since 1920 the firm has published its own *Journal*. About one half of the articles listed in 28 pages of bibliography originally appeared in this publication. Much of the material was effective in keeping the firm and staff informed as to tax changes and other current developments. Clearly this is an educational activity for both the contributors and their readers. The other material listed had appeared in various publications of general circulation and in numerous books. A count shows slightly more than 500 items, including short articles and large books. This is a surprising output to flow from the extracurricular activities of busy men. It is noteworthy too that the number of items put in general publications has been accelerating in recent years. This accords with the generally evident fact that accountants as a whole are now more articulate than ever before. They are well prepared by education and experience to have reasonable and constructive ideas; and their past services to society have earned them the right to speak out their judgment.

The increased output of accounting literature also reflected the growth in this firm's staff. In 1898 there were four partners, one staff assistant, and one clerical

assistant; in 1948 the partners numbered 56 and the staff 1,192. Most of this growth in numbers, like the growth of accounting literature and the demand for professional services, came in the past twenty years. In its first thirty years the firm made seven new partners; in the next twenty years, fifty-one.

The two chapters that deal directly with accounting literature by partners and staff make up about one-third of the book. One chapter briefly presents the principal titles according to individuals: Robert H. Montgomery, William M. Lybrand, T. Edward Ross, Walter A. Staub, Homer N. Sweet, Prior Sinclair, Norman J. Lenhart. In the other, under the title "Published Articles of Lasting Interest", five articles are reprinted in full. Robert H. Montgomery's "Professional Standards" heads the chapter. It was published in the *Journal of Accountancy*, Vol. 1, No. 1 (November 1905) and undoubtedly laid the ground work for the development of our concrete rules about professional conduct. The other articles are by Gilbert R. Byrne (a prize-winning essay); T. Edward Ross (his spritely character, Ripley V. Winkle, views accounting in 1941 with astonishment through the eyes of an accountant of 1891); Donald P. Perry and Prior Sinclair.

These samples, as is also the case with many other articles in accounting literature, are full of good ideas clearly and forcefully presented. These and many others illustrate the fact that figures and financial statements are not the accountant's only medium of expression. If all accountants had confined themselves to the details of verification and certification, the advancement of the profession, in capacity to render a service to society, would have been slow and halting indeed. Whenever the accountant exerts himself to conceive good ideas and to clothe them in convincing language, he is rendering an extra service. And it would be a service of education, although acting the educator may have been far from the author's mind. "The extent to which the members of the profession create [accounting] literature is, in a sense, a mark of their professional development." (*The Journal of Accountancy*)

Members of this firm from an early day did even more for accounting education than contribute to literature; they went into the classroom to work directly with students. In 1902, a few years after their CPA law was passed, the Pennsylvania Institute organized evening classes in accounting. Of the four teachers, two (Lybrand and Montgomery) were from this firm. A few years later local instruction in public accounting subject matter achieved academic status by being offered in the University of Pennsylvania. Before long the firm instituted summertime courses of practical study for its staff to supplement the more theoretical preparations currently or previously taken in college. Presently it was necessary to divide the staff so this sort of preparation could be different for those who had or had not had college classes in accounting. "This program

was an interesting and valuable experience. The results indicated that the non-technically trained laymen generally took four or five years to attain equal rank with those who had received technical training in college before employment."

Although opportunities for formal education have been greatly expanded, there still is a need for organized staff training within accounting firms. By including a chapter on "Staff Education, Selection and Training," this firm indicates not only the existence of a long-standing policy of staff training, but of an intention to continue the policy and improve the technique. Schoolmen will approve; they are fully aware of the limitations of textbooks and classroom exercises. But they are convinced, as are many practitioners as well, that most people planning to enter the profession would be better prepared for the long pull in their career if they could secure a college education. We all would advise the aspirant that the long pull is not down hill and a college education does not provide one with roller skates.

A. C. LITTLETON

University of Illinois

*Corporation Finance.* Floyd F. Burtchett and Clifford M. Hicks (New York: Harper & Brothers, 1948. Revised Edition. Pp. vi, 712. \$6.)

Burtchett's well-known *Corporation Finance*, published in 1934, was a scholarly work, almost encyclopedic in character. It was thorough in its treatment of the standard topics, and in addition it exhibited the fruits of much original reflection based on careful research. It was difficult to teach, however, because undergraduate students found it heavy reading. The style was ponderous, the organization was unsystematic in some respects, and the typography left a good deal to be desired. The book, furthermore, was simply too long for an undergraduate text.

An extensive revision has been done, mainly by Hicks (Burtchett has been serving in Europe with the American army as a financial adviser), with a view to enhancing the book's readability and teachability. In this it is certainly successful. There has been a reduction of about one third in total length, and the reduction of the portion written by Burtchett is even greater because Hicks has added several chapters of his own. Subjects have been rearranged, generally with benefit, and there is marked improvement in typography.

The monotony of reading is generously relieved by topic headings, outlines, summaries, tables, charts, and diagrams. Incidentally, there are retained most of Burtchett's illuminating diagrams showing the flow of securities and funds in the various methods of avoiding the effects of the after-acquired-property clause and in financing transportation equipment. Several reproductions of corporate instruments will undoubtedly catch student's interest. Insertion of a score of *Fortune* Magazine type photographs, however, carries the dressing-up process perhaps a bit too far.

Each chapter is followed by an up-to-date bibliography (Burtchett's collateral reading lists, relegated to the end of the earlier edition, are not much utilized by undergraduate students) and by "teaching aids" in

the form of questions and projects. The questions are really thought-provoking, not merely a rehash of the chapter contents. The projects are not problems in the usual sense, however; and their usefulness is somewhat doubtful, since many of them require access to more extensive library facilities than are usually available to undergraduate students.

The extent of the changes necessitates some sacrifice of the scholarly atmosphere of Burtchett's earlier version. Documentation by footnote reference—especially citation of court decisions in support of legal points—is greatly diminished. Several chapters have been dropped completely. Those on the Supply of and Demand for Capital will not be greatly missed. The wisdom of leaving out those on Poly-Corporate Expansion and Illegal Combinations is more doubtful, since they were two of Burtchett's best. And this reviewer, for one, considers the omission of the chapter on General Principles of Borrowing distinctly regrettable.

Most of the space saving, however, has been accomplished by combining and vigorous blue-pencilling. One of the most drastic examples of this condensing, and certainly the most significant, is the telescoping of Burtchett's four chapter, 75 page section on the Social Aspects of Corporation Finance into one 22 page chapter. Another topic on which considerable reduction has been effected is that of Securities Distribution, where four chapters are combined into one, with an equivalent reduction of wordage.

The new chapters contributed by Hicks are eminently valuable additions. Especially noteworthy are an Introduction, which sets the perspective a good deal better than did Burtchett's opening chapter, and three chapters on Industrial, Public Utility, and Transportation Financing. The latter bring out the important differences of financial practice in these major fields in a manner which remedies one of the principal defects of the earlier version.

Burtchett's excellent chapters on Accounting and Budgets are retained in essentials. The chapter on Depreciation, although considerably shortened, is also basically the same as in the original edition. Cognizance is taken, in the present edition, of the currently mooted problem arising from the rising cost of replacing fixed assets; and the authors rely on the authority of Kester and Finney in regarding it as one which should not affect depreciation accounting conventions. Oddly enough, however, the problem is not referred to again, as one might expect, either in the chapter on Surplus, Reserves, and Dividend Policy or in the one on Financial Expansion.

The revised edition by no means eliminates the role of the teacher in helping his students develop and clarify their understanding of the subject. Still present is the confusion about overcapitalization which is described as an excess of capitalization (securities) over capital (assets) but is treated at times as though it consisted in an excess of capital (assets) over capital needs. The chapter on Analysis of Financial Statements is included in the section entitled Current Financing and is so preoccupied with the short term position that emphasis on the long term position is almost lost.

These, however, are not really serious defects. Cor-

poration finance is a field in which the teacher must expect to help his students reconcile different points of view in many matters and must not expect this or any other text to see everything his way. In general, the revised edition, while less useful than the original as a reference book for advanced scholars, is more useful as a textbook for students embarking on the field for the first time.

ROBERT W. MAYER

University of Illinois

*Montgomery's Federal Taxes—Corporations and Partnerships*, 1948-49, Vols. I and II. Robert H. Montgomery, Conrad B. Taylor and Mark E. Richardson; Estates, Trusts and Gifts, Vol. III. Robert H. Montgomery and James O. Wynn. (New York: Ronald Press Company, 1948. Pp. 3155. \$30.)

The first two volumes entitled *Federal Taxes—Corporations and Partnerships* deal, as expected, with income taxation of corporations and to a lesser extent, of partners. That part of the tax law which relates exclusively to the individual is purposely omitted. Clearly and concisely, the authors interpret the current relative provisions of the Internal Revenue Code in the light of prevailing court decisions and Treasury opinion. When they differ from these views they dissent without hesitation, and cogently give their reasons. This feature alone makes this treatise invaluable to the taxman. Similarly, the authors do not refrain from offering suggestions as to the meaning of abstruse tax provisions concerning which the absence of Congressional opinion and definitive court decisions leave one intellectually in the dark.

Robert H. Montgomery, Conrad B. Taylor, Mark E. Richardson and their many associates are to be commended for the success they have achieved in realizing their objectives, and for their ability in keeping their annual editions so current.

The third volume in the series concerns itself with income, estate, and gift taxes and as such deals with the peculiar income tax problems of decedents, estates, and trusts. As in the first two volumes, emphasis is placed on the pertinent current provisions of the Internal Revenue Code, with enough history to make the prevailing law understandable. The authors, Robert H. Montgomery, James O. Wynn and their many associates, like those of the other two volumes, display no compunction about deviating from Treasury and governing court opinions where they have contrary convictions.

Due consideration is given in this volume to the new principles of the Revenue Act of 1948 which gave rise to such concepts as the marital deduction and terminable interests for estate and gift tax purposes. It is to be regretted that the Treasury regulations pertaining to these provisions were not promulgated early enough to enable the authors to give their reactions to them. This loss to the reader is mitigated by the authors' analysis of the new provisions of the statute itself, which is particularly comprehensible.

Montgomery's annual editions become more and more welcome with the years. The cooperative effort and the annual editing have helped to improve their quality so that they are now significant additions to the

working libraries of the inexperienced as well as seasoned tax attorneys and accountants. All taxmen should find it profitable to consult the current edition of *Montgomery* in researching a tax question for an introduction to the problem, or for an affirmation of, or an exception to a solution.

J. H. LANDMAN

New York, New York

*The Federal Income Tax*. Joyce Stanley and Richard Kilcullen. (New York: Clark Boardman Company, Ltd., 1948. Pp. xv, 344. \$6.)

The worth of a technical book can be judged in terms of its objective, its success in satisfying that objective, and its clarity and readability. Mrs. Stanley and Mr. Kilcullen, both members of the New York Bar, have written a book which rates very well on all three counts.

Income tax literature is extremely voluminous; much of that which is written is directed only at special situations and particular problems of a somewhat narrow scope. More comprehensive coverages of the subject both as to scope and detail usually run into several thick volumes, such as those of Robert H. Montgomery, Jacob Mertens Jr., and the Looseleaf tax services of Prentice-Hall, Inc., Commerce Clearing House, Inc., and Research Institute of America. Such materials obviously are of the greatest importance, but a book of the type presented here also occupies a significant position in income tax literature. *The Federal Income Tax* written by Stanley and Kilcullen is unusual in that it provides over-all coverage in a rather small volume; it contains only 344 pages.

Necessarily, the great mass of details and technicalities which surround the Federal income tax law are omitted. Such omission is a strong point, rather than a weakness, in accomplishing the objective of this book, which is to present the basic principles and framework of the law, unencumbered by a mass of detailed information of restricted interest. *The Federal Income Tax* is intended to be used with the Internal Revenue Code and is designed to restate simply and clearly most of the sections of the Code, particularly the sections of fundamental importance. Important sections of the Regulations are interwoven with related Code sections to form a brief and coherent discussion of the particular subject under consideration. A very few basic court decisions are discussed or cited; the authors kept them to the smallest number feasible in order not to clutter up the broad picture with details.

The grouping of subjects in some chapters is arbitrary and is designed merely to accomplish a mechanical subdivision of the book. Such grouping is unavoidable unless many small chapters are used, since the sequence of subjects follows the Code, section for section, without any attempt at rearrangement to bring about a more orderly arrangement. This is not an adverse criticism, since the authors intended this arrangement to facilitate the use of this book jointly with the Code.

*The Federal Income Tax* should be of value as a "refresher" for those who have some familiarity with the law; in addition, it will assist greatly anyone who is attempting to gain an over-all knowledge of the tax. It can

be used as a "companion" book to the Code and Regulations in schools which base their instruction on the Code and Regulations rather than on formal textbooks. By itself, it probably cannot be used very successfully as a textbook unless it is supplemented appreciably by the instructor. An additional and very obvious use for this volume is as a handy reference against which to check citations to the Code made in other income tax books or articles.

In general, two types of Code sections are not discussed, although they are listed and referred to in their proper numerical sequence. The first type is composed of those of limited interest, such as: Section 22(b) (6) (Ministers), Section 22(b) (7) (Income Exempt Under Treaty), Section 22(b) (8) (miscellaneous items), Section 22(b) (13) (Additional Allowance for Military and Naval Personnel), Section 22(b) (14) (Mustering-out Payments), Section 22(m) (Services of Child), Sections 361-362 (Regulated Investment Companies), Sections 371-373 (Exchanges and Distributions in Obedience to Orders of Securities and Exchange Commission), Sections 391-396 (Tax of Shareholders of Personal Service Corporations). Sections dealing with estate and gift taxes, excise taxes, admission and dues taxes, and liquor and cigarette taxes are not covered. The second type listed but not discussed includes mere cross-reference sections, for example: Sections 22(e) through 22(j) and Section 22(l).

Although most of the sections are discussed only briefly, with the intention of explaining quickly and clearly the content of that part of the law, certain subjects of widespread and fundamental importance are given more extended explanation and illustration in a competent manner by the authors. These more lengthy discussions are of assistance to any reader in giving him perspective on certain broad and important subjects; many of them should be of especial value to non-accountants in explaining certain things which are basically matters of accountancy. Other shorter discussions might also be pointed out as being of satisfactory quality.

The more lengthy discussions include coverage of capital versus revenue expenditures, "ordinary and necessary" expenses, "trade or business," traveling and living expenses, "non-trade or non-business expenses," taxes, losses, bad debts, depreciation, cash versus accrual basis, Section 102 surtax on improper accumulations of surplus, recognition of gain or loss, basis of property, distributions by corporations, capital gains and losses, income of decedents, trusts.

In a very few instances, a question might be raised as to whether or not an undue amount of the limited space available in a book of so few pages has been allotted to certain subjects of limited interest, for example: Western Hemisphere Trade Corporations (2 pages) and alimony (2½ pages).

I consider this income tax guide a useful and interesting addition to my collection of materials on the subject of the income tax.

CHARLES J. GAA

University of Illinois

*A Federal Tax Program to Promote Full Employment.*  
Congress of Industrial Organizations, Department of Education and Research. (Washington: Congress of Industrial Organizations, 1949. Pp. 28. \$1.00.)

This pamphlet presents, in semi-popular style, a brief analysis of defects in the present Federal tax structure, and suggestions for reform. To a large extent, the defects discussed are those generally recognized by students of Federal taxation, such as the inadequate treatment of capital gains, tax exempt interest, loopholes in the estate and gift taxes, and the objectionable features of the excises. Likewise most of the suggested reforms are ones which would receive wide acceptance: integration of the estate and gift taxes, repeal of most of the excises, closing of loopholes for escaping progression in the personal income tax, and mandatory joint returns. A large portion of the analysis appears to be based on H. M. Groves' *Postwar Taxation and Economic Progress*.

In the discussion of personal income tax rates and exemptions, and corporation taxation, however, many of the conclusions are based upon the preconceived views of the sponsors of the pamphlet, rather than upon scientific analysis. Argument is made for substantial increases in personal exemptions (to \$3,000 for a married couple, \$1,500 for single individuals, \$600 for each dependent), on the basis of the need for exempting the amounts necessary for a minimum necessary living standard, and the desirability of maintaining consumer purchasing power. The tax reductions made in 1948 are bitterly criticized on the basis that they involved complete departure from the ability principle. The effect of the recommended changes in exemptions upon inflationary pressures is ignored; the entire discussion of exemptions and tax rates is based upon an assumption that there is some sort of scientific standard for measuring ability to pay.

The discussion of corporation taxation assumes that corporations, as such, have tax-paying ability; note for example the statement (p. 4) "... so that corporations will contribute an equitable portion of the tax bill." The fact that the concept of ability has meaning only in respect to individuals is almost completely ignored. The elimination of discriminatory double taxation of corporation dividends is opposed on the bases that the corporation, as such, has ability, and that "unearned" income should be taxed more heavily than labor income. The fact that the latter could be accomplished in a far more equitable way is ignored, as is the possibility that at times the corporation income tax may be shifted to consumers of products rather than rest upon the owners. The recommendations in respect to corporation taxation include the retention of the present corporation income tax, with rate reductions for smaller businesses; the re-enactment of a corporation excess profits tax at rates lower than the wartime figures; and the introduction of an undistributed profits tax to compel distribution of a larger portion of corporate earnings.

JOHN F. DUE

University of Illinois



*Precision and Design in Accountancy.* F. Sewell Bray. (London; Gee & Company, Limited, 1947. Pp. 145. 15 s.)

In the annals of public accountancy, Sewell Bray has established an enviable reputation as a critic of the profession. As a member of a partnership of Chartered Accountants, located at the romantic address of Old Serjeants Inn Chambers, Chancery Lane, London, Mr. Bray has reached the happy combination of an active auditing career with extensive technical research.

The volume under review merits inclusion in the library of every practitioner and academician. Searching in analysis and stimulating in exposition, it reveals the strength and weakness in accounting theory, especially in the fields of depreciation calculation and inventory valuation. In addition, this book stresses the vital relationship between accountancy and economics, meeting the challenge inherent in Lord Stamp's statement, made in 1921: "Scientific accountancy has now been developing for some fifty years, but I cannot trace that it has made a single substantial contribution to economic science over its own field of analysis of the results of industry, although it has practically a monopoly grip of the required data."

Bray outlines the following premises as approaching the requirements of accounting standards: first, income should not be regarded as earned until it has been realized, or until such realization is reasonably assured and covered by a simultaneous increase in current assets; second, objective cost is the proper basis for the accounting treatment of assets and expenses, although some modification of this method may be desirable on the grounds of economic propriety; third, all accounting documents should give clear expression to business transactions evidenced as completed and thereby supported by objective data; fourth, all accounting documents should adhere to a full disclosure of significant information; fifth, conservatism should not be carried to lengths of such an understatement as will amount to a misstatement; sixth, within the concept of historical cost, consistency should be maintained in regard to the basis of measurement of operational items in periodical financial statements.

In the author's opinion, the purpose of all financial accounting documents is the "attainment and disclosure of such a degree of truth as is reasonably possible in all the circumstances of a particular case, and it is in this view that we should seek the *real* philosophy of accounts." Contemporary research, as he views it, should delve into the mysteries of income calculation and statement, that indefinite field which is not being subjected to searching analysis by professional societies on both sides of the Atlantic. Through this research by accountants and their organizations, the design of accounts will eventually be improved, and economists, in turn, will perfect their tools, thus preparing the way for joint investigation by the two professions of problems of common concern.

Forty years ago, in the February, 1909, issue of the *Journal of Accountancy*, Maurice H. Robinson proposed the marriage of accounting and economics which is about to be consummated in modern times. In the intervening period, professional accountants and univer-

sity professors have clarified many of the tenets of the two fields of learning. In Great Britain these individuals have included W. T. Baxter, Bertram Nelson, Harry Norris, Arnold Plant, H. W. Singer and Basil Smallpiece; in the United States, the following may be mentioned: John Bauer, John B. Canning, James L. Dohr, Stephen Gilman, Henry R. Hatfield, A. C. Littleton, George O. May, W. A. Paton and D. R. Scott. All of these men—by articles in learned journals or papers read before professional groups—have summarized developments in economics and accounting, emphasizing the areas of theory and practice as yet undefined.

Sewell Bray's *Precision and Design in Accountancy* is important because it offers a digest of traditional and contemporary approaches to complex accounting questions, some of which, it would appear, can only be solved through the cooperation of accountants and economists. His work opens the door to wiser and wider accounting research, and to the much-desired liaison between the professional economist and the practical accountant.

MARY E. MURPHY

*Hunter College of the City of New York*

*Money Market Primer.* John T. Madden, Marcus Nadler and Sipa Heller. (New York: The Ronald Press Company, 1948. Pp. 212. \$3.00.)

There is no field of economics in which the "managed economy" has penetrated more deeply than in that of "money." Practically, this has meant that the level and direction of interest rates have been more the result of government and federal reserve policies than of the forces of "supply and demand." The outstanding example was the stupendous amount of war financing which was accomplished at low interest rates. (This was true in other countries as well as in the United States.)

An understanding of the objectives of these financial policies, the techniques by which they are accomplished and the results (good and bad) which they may have is essential to any interpretation or forecast of money or bond market conditions. It is the purpose of the *Money Market Primer* to give the reader this understanding.

The change which has occurred in the money market during the past twenty years is indicated by the absence of discussion in the *Primer* of bankers' acceptances, commercial paper and the call loan market, all of which once held prominent places in any book on the money market. Today, short-term government securities hold preeminence and long-term governments are not without effect on treasury and federal reserve policy.

The authors start with explanations of the well-known principles of the dependence of bank deposits upon bank assets and the dependence of bank assets on bank reserves. They then show how federal reserve credit policies and treasury gold and fiscal policies determine the size of bank reserves. It is through these manipulations that bank lending and investing policies are influenced and interest rates controlled. The more subtle effects of changes in the types of government securities issued, changes in treasury cash balances, the flow of funds and securities among the banks, the treasury, government trust funds, non-bank investment institutions, private



investors and the federal reserve banks are well presented.

The "money management" policies of the federal reserve and treasury are traced from the early 1930's through the war and postwar periods. The authors point out clearly the dangers in the existing government debt and the policies which have been used to deal with it. They also show that the managed money policies of the 'thirties did not result in price or business stability which were the announced objectives of those policies.

WILLIAM E. DUNKMAN

University of Rochester

*Pricing, Distribution and Employment.* Joe S. Bain. (New York: Henry Holt and Company, 1948. Pp. xiv, 496. \$3.75.)

Those who are searching for an appropriate text to be used in a college course in intermediate economic theory may find this book well-suited to their purposes. It is designed primarily for students who have completed a survey course in economics and who are majoring in economics or business administration.

Proceeding on the assumption that most students of economics will not become professional economists, the author has reduced the emphasis on formal training in the actual techniques of analysis and has endeavored to describe in theoretical terms the working of the modern capitalist economy. The result is an unusually comprehensive and concise book with a coverage considerably greater than one ordinarily finds in texts in this field. Material is drawn from a wide variety of sources, including the most recent works in the field of imperfect competition and Keynesian economics. A constant effort is made to emphasize those theories which are most directly relevant to our economy as it exists today.

The book may be divided roughly into two sections. The first deals with the pricing of individual commodities. It includes a discussion of demand from the point of view of the seller, production costs of the firm, and price determination assuming five principal market situations: pure competition, simple (single-firm) monopoly, differentiated oligopoly, pure oligopoly, and monopolistic competition. Monopsony and oligopsony are also discussed. Principal emphasis is placed on monopolistic and oligopolistic situations, since these are most frequently encountered today. Of considerable value are the careful definition and comparison of the various market situations and the discussion of their social significance.

The second section of the book is concerned mainly with the functional distribution of income, but also includes consideration of the interrelationships among saving, investment, income, interest, employment, and the general price level. In both sections, equilibrium rather than dynamic process analysis is stressed.

Throughout the book assumptions are carefully stated and repeated at intervals. The limitations of the analysis are not dodged but are constantly brought to the student's attention. With the exception of a moderate use of diagrams, mathematical techniques are generally avoided.

Books of this type are highly abstract and thus apt to be afflicted with the well-known textbook curse of dull-

ness. Students may find the book under discussion on exception. Occasional examples lend content and interest to the generalizations, but the use of this device is somewhat limited by the effort to cover a considerable area of economic theory in one book. No problems are included, though they might assist the student in understanding the confusing concepts of economic analysis. Appropriate exercises and problems, however, could be provided by the individual instructor along with additional reading in those fields which the instructor might feel it desirable to emphasize. In general, the text, as a result of its broad coverage, forms a framework around which almost any course in intermediate analysis might be built.

ALAN H. GLEASON

University of Rochester

*Economics, Principles and Problems.* (Third edition) Paul F. Gemmill and Ralph H. Blodgett. (New York: Harper and Brothers, 1948. Vol. I, Pp. ix, 588, Vol. II, Pp. 517. \$3.00 each.)

Those who have used earlier editions of this elementary textbook will have formed some opinion as to its teachability, its organization, and its general suitability to individual needs in the elementary course. The new third edition is unchanged with respect to these general matters, and the user can expect the same sort of results from the new edition as from earlier editions. The chapters of Volume 1, "Principles," are almost identical with those of the second edition. Some minor shuffling of material has occurred; a notable improvement is the elimination of the use of supply and demand "bands" in price determination under imperfect competition, and the substitution of the marginal revenue—marginal cost analysis. Volume 2, "Problems," is substantially unchanged, though minimal additions have been made to the materials of various chapters, e.g., short sections on wartime experience with labor, the Taft-Hartley Act, wartime price control, the theory of full employment, world trade during the war, The International Monetary Fund, The International Bank, and Soviet Russia during World War II.

The remainder of this review is intended primarily for those unfamiliar with earlier editions of the book. It is written in a straight-forward style, and would seem to do a creditable job of teaching itself. Examples in application of the principles are numerous and are integrated into the theory chapters. While this is excellent and necessary technique, in many instances it would have been preferable to select illustrations from more recent experience. The book is encyclopedic (almost 1100 pages of text); it gets almost everything in, but seems to the reviewer to lack distinction between important and unimportant matters. For example, four times as much space is given to bimetalism and Gresham's Law as is given to the present inconvertible gold currency system of the United States.

This book is traditional in organization and in content. It contains none of the recent "income approach"; its section on distribution theory is entirely traditional; its sections on price and distribution theory are oriented to pure competition. The reviewer feels that its price theory is unnecessarily complex. The student is led

through price determination under (pure) competition, imperfect competition, "partial monopoly," and (pure) monopoly, each applied to the short run, the "period of current production," and the long run. It is doubtful that any but the best students will be able to keep their classifications straight, especially in view of the fact that these cross-categories are telescoped into a fairly short section of text. At the very minimum, some more adequate grouping under chapter headings would appear to be called for. The student is given supply and demand analysis, maximizing the area of profit between demand and average total cost curves, and marginal revenue-marginal cost analysis. Why can price theory not be approached with the marginal revenue-marginal cost analysis as the basic technique, with the various degrees of competition treated in terms of demand facing the individual seller and the various time periods treated in terms of the behavior of costs? In respect to the complexity of price theory, Gemmill and Boldgett are no worse than most other textbooks, but there is opportunity for marked simplification. It appears to be a common fault of elementary textbook writers that when they approach the fundamental matter of price determination they take their eyes off the student and write for instructors and reviewers.

The authors are to be commended for taking a stand on most policy issues discussed in the book. Issues are generally presented adequately for the student to understand the rationale of both sides, and thus the statement of the authors' preference cannot be characterized as dogmatic propagandizing. It is important to the beginning student to have some direction in the formation of his point of view on economic issues. Where else but in an introductory economics course can this be done with so little special pleading? Unfortunately, however, the present edition seriously condenses and, in the reviewer's opinion, largely emasculates the earlier discussion of progressive taxation. One would prefer to have had this discussion carried over verbatim into the new edition, both because it was a superior treatment and because it had been publicly subjected to irresponsible attack as being subversive.

Those who wish to use an elementary textbook of the traditional type will probably find Gemmill and Boldgett a quite satisfactory choice. It is liberal and open-minded in its point of view, it is comprehensive though by no means exhaustive in its content, and it is written in a style which should make it instructive to the average student.

PHILIP E. TAYLOR

University of Connecticut

*The Structure of Postwar Prices.* Frederick C. Mills. (New York: National Bureau of Economic Research, 1948. Pp. 68. 75¢.)

This work is the third in the series by Dr. Mills, of which the first was *Prices in Recession and Recovery*, (1936), followed by *Prices in a War Economy*, (1943). It presents, in brief form, one of the best available surveys of recent trends in general price indices.

In spite of the reluctance of most accountants to give recognition to problems created by the elastic character of our measuring unit, pressures urging them to do so

continue to mount each day. Congressional investigations, discussions with corporate officials, labor management debates, etc., all seem to snag on the same point—how should book profits be interpreted?

On one particular of the Income Statement there is agreement. Dollar figures do not adequately represent physical volume. Mills shows:

Table One  
Changes in Physical Quantities Produced or Exchanged  
and in Their Aggregate Values, 1939-1947

	% Change 1939-1947	
	Physical Quantity	Aggregate Value
Agricultural production* . . . . .	27	272
Mineral production . . . . .	46	156
Manufacturing production . . . . .	82	248
Construction activity . . . . .	34	150
Retail sales . . . . .	73	226
	(all increases)	

\* This represents approximately a tripling of the price level—372/127.

Although the figures are to be regarded as estimates, perhaps subject to a rather sizable margin of error, the overall implications concerning inventory valuations and dollar profits should be abundantly clear.

In another table Mills shows the background for debates on another major issue of the day, on depreciation and overhead charges:

Table Six  
Estimated Changes in Average Selling Price of  
Manufactured Goods and in its Major  
Components, 1939-1947

	Index per unit of manufactured product		
	1939	1946	1947
Selling price . . . . .	100	144	178
Direct costs . . . . .	100	151	190
Cost of Materials . . . . .	100	148	190
Labor costs . . . . .	100	166	190
Overhead costs . . . . .	100	104	103
Federal, state income and excess profits taxes . . . . .	100	381	547
Profits . . . . .	100	134	200

Even after allowing for the increased use of facilities, resulting in lowered per unit charges, it seems evident that overhead expenses are drastically out of line with other items. But many accountants would disagree with the following deduction, from page 15, (Mills is explaining why prices for "durables" rose less than prices for "consumer goods"):

"Related to this in the formulation of price policy is the fact that in the production of such goods relatively stable overhead charges are large elements of selling price. Rising volume may so lower overhead charges per unit of product that rising material and labor costs may be absorbed without reducing the strategically important profit margins per unit of product."

Overhead charges are "relatively stable" only if we are considering historical figures. As Dr. Willard Graham emphasized in the January issue of the ACCOUNTING REVIEW, selling prices are set on the basis of

current costs, insofar as they are set on the basis of cost at all (unless there is a regulated market).

Accountants who have been investigating the possibility of using some form of index to increase the usefulness of reported figures for a particular concern will find over 60 general indices in Appendix Table 8, giving monthly figures for the years since 1943. This continues the record given in previous publications. However, the indices should not be used without an investigation of their suitability. As H. Schmidt declared in "Die Industrie Konjunktur—Ein Rechenfehler" (*Zeitschrift für Betriebswirtschaft*, 1927):

"How much, for instance, could a 10% general index correction help pig iron producers whose products rose in value over 60% during the corresponding time? The producer would not be prevented from taking up a substantial part of the illusory profit into net gain, and thus prompted, to overexpand and make all those faulty managerial decisions that characterize the height of prosperity. A correct calculation of profit, one upon which management can confidently rely under any given economic condition, must be based upon current market values of individual cost components."

Dr. Mills' publications are especially valuable for those accountants who have recently taken an interest in price problems and are not too familiar with the sources from which data can be obtained. His tables are amply supported by footnotes. The interested reader can bring many of the figures up to date by referring to the sources which are cited in these works.

For those who still have the temerity to forecast (despite election results), Mills presents a survey and comparison of price trends during the two World Wars, together with a description of the events in the early 1920's. The effects of price regulations in the more recent conflict are evident, but it is surprising how prices rose to an almost parallel position once controls were removed. Mills' personal conclusion, based also on a study of the Civil War, is that: "The past record of peacetime declines, as well of postwar recessions, suggests the possibility of a sharp initial drop in prices when the peak has been passed, perhaps accelerating in the early stages of the decline. Thereafter retardation of the rate of decline is suggested, with stabilization as the forces of revival gather strength."

The results presented in this survey are helpful and informative, even if the figures are necessarily rough estimates. Published prices did not always reflect actual market rates—grey or black—and the figures are therefore apt to be somewhat misleading, especially as regards the disparity between rises in "heavy" and "soft" lines. As Evan Clague, Commissioner of Labor Statistics, remarked late in 1946: "None of the presently kept statistics adequately measures production. In fact, those we do have are often misused and twisted to mean something they really do not mean."

In spite of these difficulties, Dr. Mills' own comment, made in the 1936 publication, seems to sum the situation: "Though the price record alone is inadequate, it is more comprehensive and more accurate than any other general record of economic changes."

PAUL KIRCHER

University of Chicago

*Value of Commodity Output since 1869.* William Howard Shaw. (New York: National Bureau of Economic Research, Inc., 1947. Pp. x, 310. \$4.00.)

Continuing a study begun in 1933 of the flow of commodities, this volume presents an extensive array of estimates of commodity output at producers' prices from 1869 to 1940, with particular emphasis on the years prior to 1920. The Department of Commerce is currently compiling an official series back to 1919, which in combination with the estimates in this volume will provide a continuous record covering three-quarters of a century.

Mr. Shaw's scholarly volume is primarily a compilation of statistical tables with appropriate notes on construction. The 77-page summary (Part I) contains over fifty pages of tables, one table alone requiring 35 continuous pages. Part II gives the steps taken in preparing the main tables, discusses the *Census of Manufactures* and the problem of compiling detailed data which will make the values for each of the several thousand commodities comparable from census year to census year, and describes a wide variety of other sources of annual data which make possible the derivation of intercensal estimates. Yearly estimates from 1889 to 1939 in both current and 1913 prices are derived for 36 distinct groups of commodities such as food, clothing, furniture, house-furnishings, automobiles, industrial machinery, and farm equipment. In Part III the export and import data, an essential part of total value output and value of output destined for domestic consumption, are reviewed in detail. Price indexes are also computed (Part IV) for most of the 36 groups of commodities.

In the summary the author states the purposes of these estimates as follows: "To the economic historian they give threads of detail with which the pattern of development during the late 19th and early 20th century can be woven. To the practicing economist they give added insight into the workings of the commodity producing economy, particularly concerning its end products. And to the theorist they give empirical aid in testing hypotheses." The significance of the estimates is discussed in the summary under the general headings of (a) rates of growth and changes in composition over the entire period, and (b) variations from decade to decade in both the absolute figures and the percentage of the whole represented by the individual commodity groups.

Of particular interest to the student of business cycles is the discussion of the cyclical behavior of the output series and the price indexes. The amplitude of expansion and contraction in successive specific cycles between 1889 and 1939 is determined for each of the major commodity groups, at both current and 1913 prices and in terms of price indexes. The three series in turn are measured against recognized turning points in the business activity of the economy as a whole, and the results expressed in conformity indexes. These conformity figures disclose considerable inter-group variation, but the turning points of all three series agree fairly well with those of the business cycle dates used.

This recent volume on the flow of commodities maintains the same high standards as its predecessors. It is an excellent piece of statistical research undertaken by a

technician with a thorough knowledge of the material and the finished skill necessary to shape it into a useful economic study.

J. E. McDONOUGH

Washington, D. C.

*Output and Productivity in the Electric and Gas Utilities 1899-1942.* Jacob Martin Gould. (New York: National Bureau of Economic Research, Inc., 1946. Pp. xi, 195. \$3.00.)

In this volume the National Bureau of Economic Research, Inc. extends its series of four earlier volumes and five occasional papers on the study of production, employment, and productivity in American industry since the beginning of the twentieth century. The electric and gas utilities not only provide a compact study revealing their own exceptionally rapid growth and functional expansion but also yield considerable information of value to a better understanding of other industries in our American economy.

The presentation of the material in this latest study is both simple and logical; viz., a consideration of electric light and power under the two general headings of output and relation of output to input; a similar treatment of manufactured and natural gas; and a summary setting forth the trends and contrasts of both utilities. The simplicity of this general arrangement, however, is in striking contrast to the complex character of the data which the author has succeeded in reducing to an orderly narrative. Electricity generated and measured in kilowatt-hours is of significance only when further considered in the light of the changing proportions of this output going to the various consumer groups. In turn, these proportions must be evaluated in terms of dollar revenue based on changing rates charged to customers. Similarly, the costs side of the production process, i.e., the input, embraces such complex and varying factors as labor, fuel, and the capital equipment which makes productive capacity possible. The gas industry in addition presents the problem of distinguishing between manufactured gas and natural gas.

A few samples will serve to highlight some of the findings of this study. From the turn of the century (1902) up to 1942 the output of the electric light and power industry increased about 5,800 per cent, with the sales of electricity for industrial power growing most rapidly from 1902 to 1917 and the sales for domestic consumption making the greatest gains since 1917. Much of this increase in domestic use is attributable, of course, to the successful introduction of numerous low-cost electric appliances that are now considered as essentials in the modern dwelling. Illumination began to lose its dominant position in the domestic consumption of electricity shortly after the termination of World War I, lighting accounting for merely one-third of total electricity consumed in the household in 1942.

When expressed in terms of the fuel consumed, capital invested, and persons employed, the exceptionally rapid growth of the electric light and power industry reveals an impressive increase in the efficient use of resources utilized in production. For example, unit fuel requirements have declined steadily from over 7 pounds of coal per kilowatt-hour produced in 1902 to

1.25 pounds (bituminous equivalent) in 1942; the percentage of actual output to optimum output (rated capacity of generating equipment) rose from 23.6 in 1902 to 47.1 in 1942; and in the labor field output per man employed increased vigorously over the forty-year period, showing a 650% increase, while total employment in the industry was rising at an average annual rate of 5.6 per cent.

Because of the twofold character of the gas industry, viz., manufactured gas and natural gas, its analysis necessarily requires a consideration of the output of each of these sub-sections separately. However, since the products of both sources of gas satisfy similar needs and the decline in the consumption of manufactured gas is closely related to its replacement in recent years by natural gas, the author also considers the combined output of these two types of gas. During the latter half of the nineteenth century, manufactured gas was the chief means of artificial illumination, but even the Welsbach mantle could not successfully compete with Edison's incandescent lamp after the turn of the century. Cooking by gas, house heating, domestic refrigeration, and the rapidly expanding consumption for commercial and industrial uses enabled the manufactured gas industry to continue its increasing output up to the year 1929, but in that year a decline in output began which continued until 1939. A large part of this decline was due to the shift to natural gas. These changes are reflected in the figures of output which show a sixfold increase in cubic feet of gas sold from 1899 to 1929 but a decline of nearly 13 per cent in the following ten years.

Like the electric light and power industry the natural gas industry was in its infancy in the 1890's. The first long distance, high-pressure gas line, 120 miles long, was built in 1891. Output of natural gas received its major stimulant in the early 1920's with the rapid growth in industrial consumption. From 1920 to 1940 annual output rose from 700 billion cubic feet to over 2600 billion cubic feet. A weighted index of output of natural gas is 850 per cent higher in 1940 than in 1899, but a similar index of manufactured gas output for this period rose only 469 per cent. In 1940 the trend of natural gas was rising at an annual rate of over 3 per cent, more than enough to offset the decline in the manufactured gas index. Yet the eventual exhaustion of natural gas deposits may, ironically enough, eventually force us to fall back on the manufactured gas industry as the sole source of gas or even abandon gas and shift completely to electricity or possibly atomic sources of energy.

The author of this study has demonstrated a thorough knowledge of sound statistical procedure and a commendable ability to cope with the numerous problems of incomplete historical data and shifting classifications. His skillful use of the logarithmic parabola applied to the output charts to depict growth trends brings out sharply the secular growth and the degree of retardation or acceleration. By confining to an appendix the explanation of the mechanical construction of his indexes and interspersing the text with numerous short tables and simple charts, he has produced a readable yet meaty volume worthy of a place with its companion studies in the series.

J. E. McDONOUGH

Washington, D. C.

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